Inhabiting Broxmouth:
Biographies of a Scottish Iron Age Settlement

By Lindsey Sarah BÜSTER

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Department of Archaeological Sciences, University of Bradford

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Abstract

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Roundhouses are ubiquitous in prehistoric Britain, yet previous studies of these iconic features have tended to overlook their human occupants, focusing instead on their external morphology and structural engineering. Those studies which have attempted to move beyond functionalist frameworks, have often applied overarching and broad-scale cosmological models which, though re-orientating study towards social considerations, have likewise failed to shed light on the interaction between roundhouse and their inhabitants, particularly at a household level.

This research reanalyses the Late Iron Age settlement at Broxmouth, East Lothian, using new theoretical approaches and advances in AMS dating to ask new questions of a 30 year old data-set. Biographical and materiality approaches, which draw heavily on relational analogy with the ethnographic record, have allowed for detailed reconstruction of the life-history of each structure, and important moments within these histories. Roundhouse replacement appears to have taken place on a roughly generational basis, as a means by which households renegotiated their social identities within the community. Structured deposition, and the materiality of the roundhouse fabric itself, appears to have played an important role in the communication of identity, where the retention of previous structural fabric, the deposition of curated items, and the referencing of former internal features, created physical and symbolic links with the past, and with the ancestors. As such, this study demonstrates that roundhouses were far more than mere dwellings, and were integral to the ways in which past societies rationalised the world around them.

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Chapter 1: Introduction

'The appearance of post-built round-houses in the archaeological record of the later 2nd millennium BC represents the emergence of a distinctive and long-lived architectural tradition that survived throughout the Late Bronze Age and Iron Age' (Brück 1999, 155).

The roundhouse is, arguably, *the* iconic feature of the British Bronze and Iron Ages. This is particularly true for the Iron Age, since the deposition of large quantities of valuable metalwork in hoards, and the distinctive burial rites of the Bronze Age had, by this time, virtually ceased, and were replaced by a proliferation of domestic structures on a scale not previously seen. These structures were almost exclusively 'roundhouses'. They varied widely in fabric and construction technique, from the substantial early timber constructions of Wessex (e.g. Longbridge Deverill Cow Down, Wiltshire; Hawkes 1994; and Dunston Park, Thatcham, Berkshire; Fitzpatrick 1994), to the composite stone and timber, Late Iron Age roundhouses of southern Scotland (e.g. Broxmouth; Hill 1979; 1982a; 1995), and the stone-walled brochs and wheelhouses of Atlantic Scotland (e.g. Armit 2003; 2006). This is in contrast to the Continental Iron Age, where archaeologically visible burials constitute much of the available evidence, whilst domestic structures are less visible and tend to be rectangular in form (Harding 2009, xi). It appears then that the expression of identity and other social concerns through burial may have been, at least partially, replaced by the medium of architecture at this time (Harding 2001, 372). In Britain, the roundhouse presents an important focus for Iron Age studies and has been used to examine many aspects of Iron Age life from economy to cosmology.

This thesis will re-examine the roundhouses at Broxmouth, East Lothian, with an emphasis on the materiality and biography of these structures, the expression of identity through architecture, and the creation of place through social memory.

1.1 **Introducing Broxmouth**

Broxmouth Iron Age 'hillfort' (NMR no. NT77 NW16) occupied a small limestone knoll, on the East Lothian coastal plain, 2.5km south-east of Dunbar and 600m from the coast (Fig. 1.1). The site was first recognised on aerial photographs in 1956 (Fig. 1.2), and was excavated between September 1977 and November 1978 (after trial trenching in February 1977), in advance of quarry works by the Associated Portland Cement Manufacturers' Ltd (now Lafarge Cement Ltd), Dunbar. The excavation, which remains the most comprehensive investigation of a Scottish hillfort to date, was directed by Peter Hill, and whilst the team included several professional archaeologists, the majority of the workforce comprised University of Edinburgh undergraduate archaeology students and participants of the Manpower Service Commission's 'job creation scheme'.

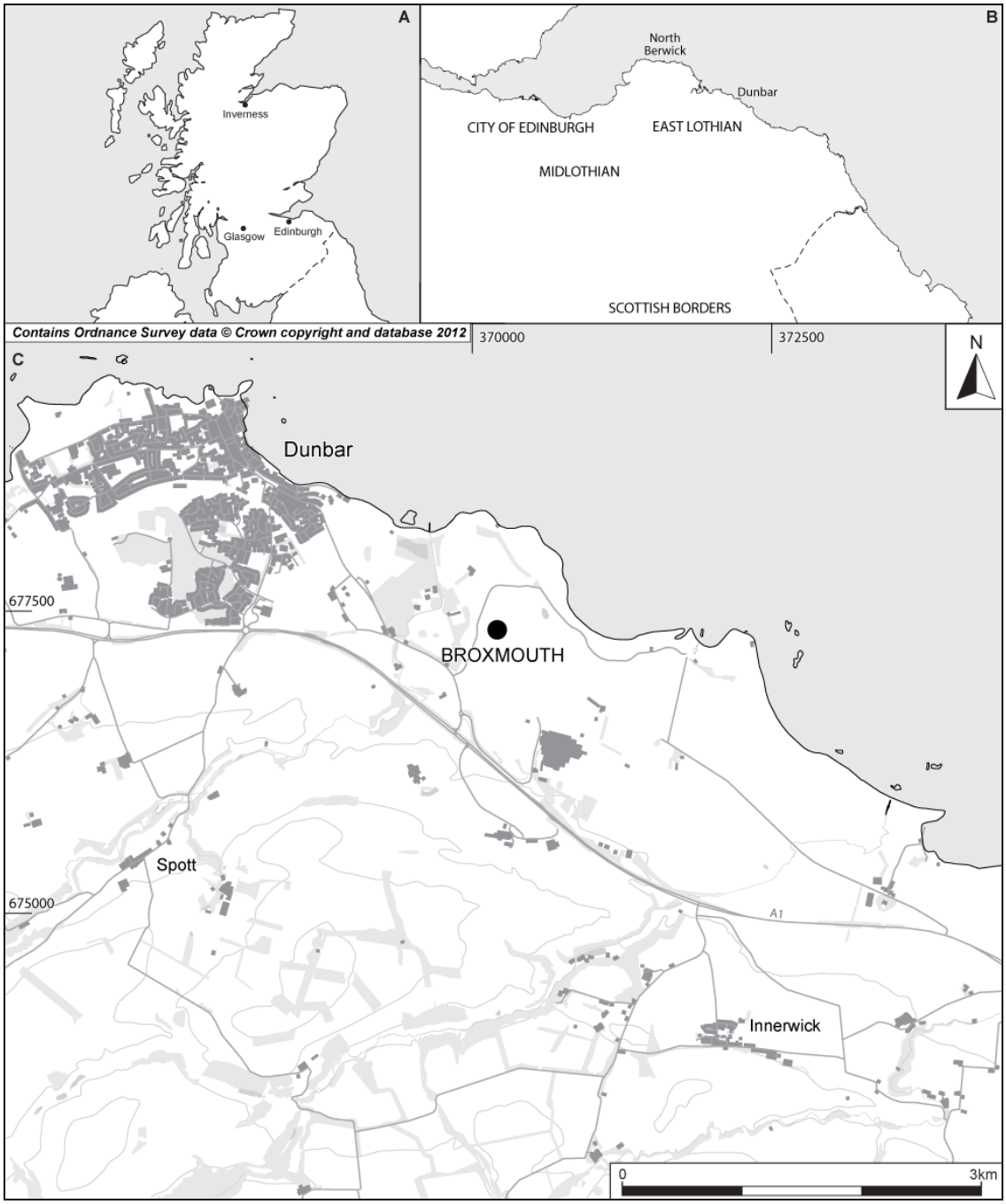


Fig. 1.1 Location map of Broxmouth (image copyright The Broxmouth Project)

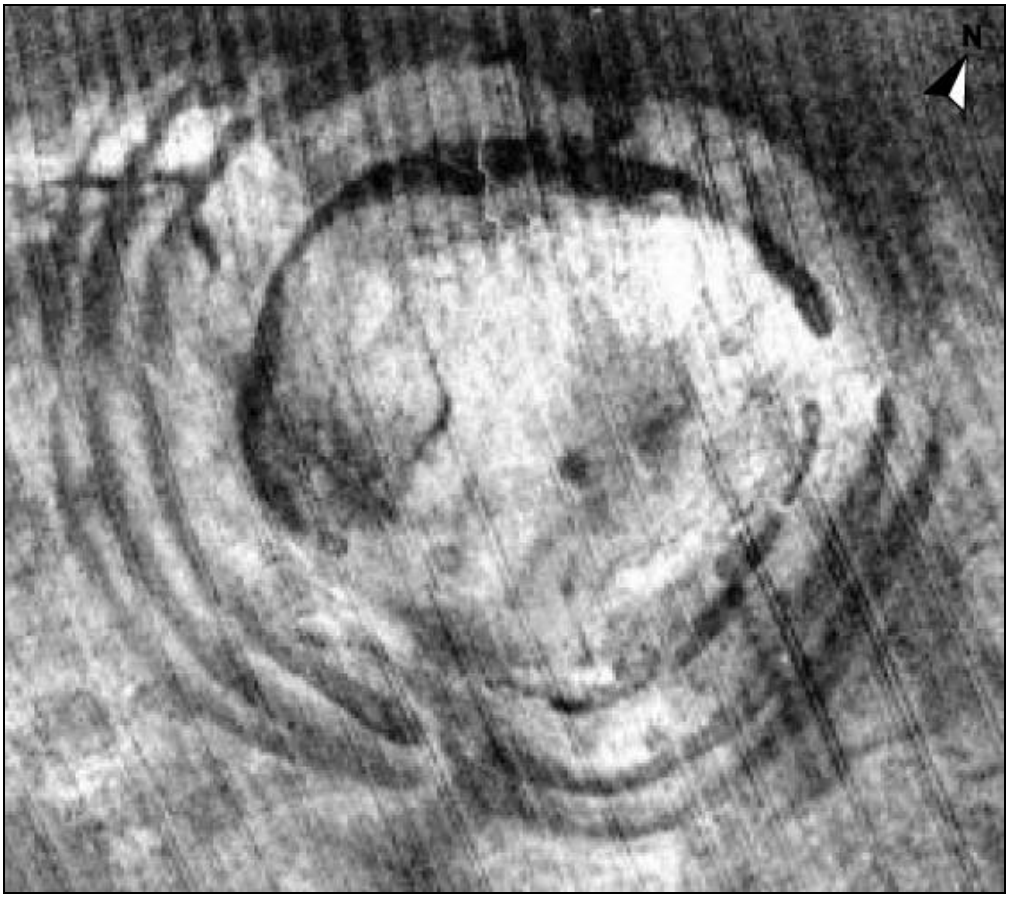


Fig. 1.2 Aerial photograph (1975, not to scale) showing Broxmouth as a cropmark prior to excavation (image copyright RCAHMS)

Excavation (Fig. 1.3) revealed a multi-period site including enclosed and unenclosed phases of settlement, now known to represent close to 900 years of occupation (Table 1.1). The deeply stratified and exceptionally preserved archaeological record came as something of a surprise, since trial-trenching had suggested severe plough truncation of the site. Whilst the northern part of the site interior was indeed too plough damaged to allow for any more than topsoil-stripping, the natural topography of the knoll had protected other areas, particularly the western Inner Ditch, where a full stratigraphic sequence was preserved. This allowed the enclosure sequence and interior roundhouses to be related stratigraphically, a feat which is rarely possible on sites of this nature.

Fig. 1.3 Aerial photograph showing Broxmouth under excavation (image copyright RCAHMS)

Percentage probability	Start date	End date
95%	*715-550 cal. BC*	*cal. AD 145-255*
68%	*640-570 cal. BC*	*cal. AD 155-210*

Table 1.1 Bayesian modelled dates for the duration of Iron Age settlement at Broxmouth (within which six main phases of activity can be identified, Table 3.1, section 3.2.1). The modelled 68% range is considered more probable (D. Hamilton pers. comm.; see Section 3.3.3).

The deep stratigraphy yielded a rich material assemblage, which comprised over one thousand artefacts. Furthermore, the unusual (for this region) alkaline geology of the site (Fig. 5.2) preserved the largest worked bone and faunal assemblage in lowland Scotland, the latter dominated by cattle and sheep, but also including large quantities of shell (some winkle but mainly limpet), fish bone and crab. Significantly, reanalysis of the fish bone has detected deep-sea species (Russ *et al*, 2012), suggesting a certain sophistication in sea-faring. The chance recovery of a small inhumation cemetery (ten individuals, in nine graves), also represented a rarely recorded funerary rite in Iron Age Britain. These aspects of the archaeological record, coupled with Broxmouth's rich 'sociological' history (in that many of Britain's eminent archaeologists formed part of the student excavation team), has resulted in Broxmouth being regarded as one of the most important sites for Iron Age research in Scotland.

1.2 **The Broxmouth Project**

The Broxmouth Project (2008-2012), funded by Historic Scotland, was directed by Professor Ian Armit and managed by Dr. Jo McKenzie at the University of Bradford. The Project was tasked with the reanalysis and publication (Armit and McKenzie in press, 2013a) of the Broxmouth hillfort excavations (1977-78), which, despite significant findings (see above), had been published only as a series of interim reports (Hill 1979; 1982a). Three affiliated AHRC-funded Collaborative Doctoral Award studentships also offered a rare opportunity to analyse the extraordinarily rich and diverse data from this rescue excavation in a research environment, and use the site as a platform from which to discuss broader and more over-arching questions.

Broxmouth represents the most complete hillfort excavation in Scotland and parallels in importance, for southern Scottish archaeology, the iconic sites of Danebury and Little Woodbury in southern England. The site is less well known in the wider literature simply because the archive has lain in the Royal Commission for Ancient and Historic Monuments of Scotland for the past thirty years, and represents one of Historic Scotland's largest backlog projects (Barclay and Owen 1995). An interim report on the initial findings from Broxmouth (Hill 1982a), published in *Later Prehistoric Settlement in South-East Scotland* (Harding 1982), had a significant impact on Iron Age studies in the region at the time. Certainly, Broxmouth was pivotal in undermining the blanket application of the 'Hownam sequence' to hillfort development across south-east Scotland (Armit 1999), and the frequency with which it features in the recent Scottish Archaeological Research Framework (ScARF; Hunter and Carruthers 2012) confirms its continuing iconic status, and the need to bring its publication to fruition (Armit and McKenzie in press, 2013a).

1.3 **Inhabiting Broxmouth**

Despite Broxmouth's important findings, excavations took place over 30 years ago and significant changes in methodological practice and theoretical approach have since taken place (e.g. Bradley 2005; Gerritsen 2008; Parker Pearson and Richards 1994). The introduction of single-context recording has allowed for a greater understanding of taphonomic processes, which has, in turn, affected interpretations regarding the use of space within roundhouses (e.g. Webley 2007). The increased use of ethnographic studies (e.g. Horton 1994; Lane 1994; Oliver 1987) has also provided more nuanced insights into

the ways in which roundhouses may have been used and perceived during the Iron Age.

Despite these developments, several structural aspects of roundhouses (e.g. the necessity and function of post-rings), are still poorly understood. Iron Age people have also, until recently, been confined to a one-dimensional and functional existence. Many artistic representations of roundhouses are void of people and possessions, whilst others contain ghostly figures or activities set some distance from the roundhouse itself (Fig. 1.4).

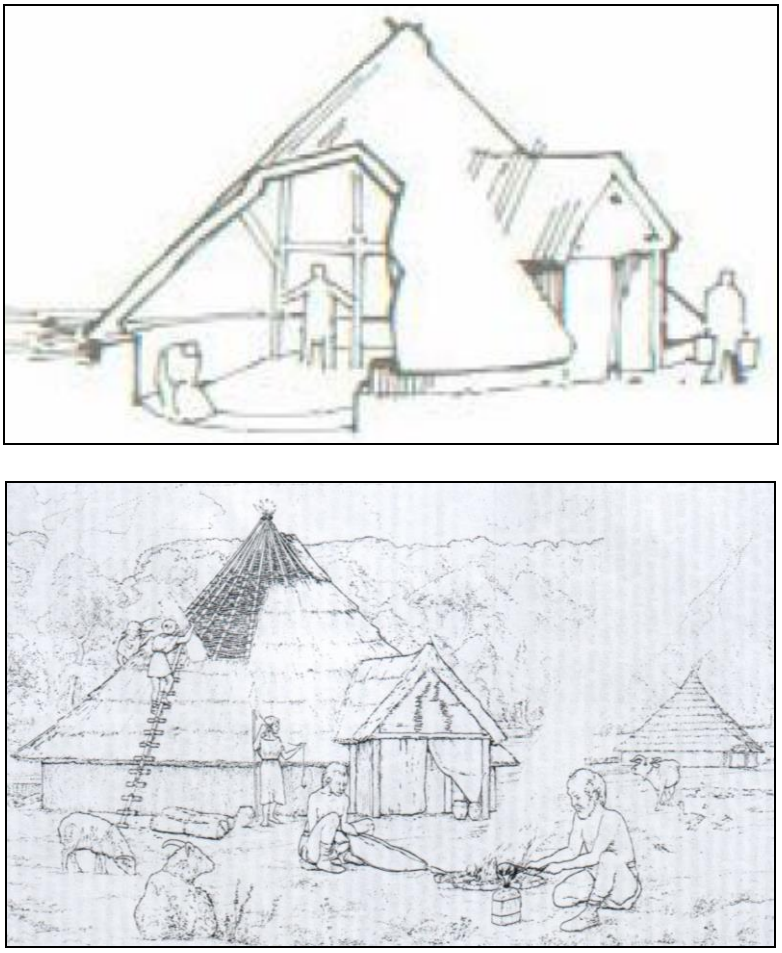


Fig. 1.4 Artist's representation of House 2 at Ironshill, Inverkeilor, Angus (top; Pollock 1997, 349, illus. 12) and Dunston Park, Thatcham (bottom; Fitzpatrick 1994, 76). Structural detail, in the former, is conveyed, but people are represented as shadowy, ephemeral figures engaged in various unknown activities and perhaps added for scale-purposes only. There is some attempt, in the latter, to show interaction between inhabitants and the roundhouse via re-thatching, but daily activities are more removed from the structure itself.

It is thus apparent that a greater consideration of the role of ‘round-houses’ as ‘round-homes’ is required. This research seeks to address some of the challenges and assumptions bound-up in widely accepted perceptions of Iron Age roundhouses and go some way towards revealing their highly-complex and contextually-specific nature, with the agency of their inhabitants at the forefront of interpretation.

Roundhouses are not separate from landscape, or portable material culture, but are part of the *same* canvas upon and within which past lives were lived (Gerritsen 2008, 143). They were loci of activity where landscape and artefacts became intertwined with the beliefs and concerns of their inhabitants (Jones 2008, 107). In this way, roundhouses have the potential to help us understand the daily lives of Iron Age people, their routine practices, their entrenched behaviours, and the ways in which they rationalised the world and ‘made themselves at home’ in it. Furthermore, changes in domestic architecture indicate the various ways in which communities adapted to the social, economic and environmental pressures of a changing world.

Drawing upon recent methodological and theoretical approaches developed in Iron Age studies, this research will re-examine the roundhouses of the Late Iron Age settlement at Broxmouth, in order to better understand the ways in which they were experienced (physically and symbolically), and what they reveal about socially significant events in the lives of their inhabitants. It will begin (Chapter 2) with an appraisal of roundhouse studies to date, illustrating the significance of the Broxmouth excavations and their interim findings, and the

ways in which new theoretical approaches can contribute to their understanding. The ways in which the Broxmouth roundhouses have been reanalysed will then be outlined (Chapter 3), together with discussion of the ways in which their original recording impacted upon subsequent interpretation. Chapter 4 will describe the Broxmouth roundhouses and outline the nature and development of each structure, before summarising the Broxmouth settlement more generally (section 4.11). The apparent longevity of the house-stances at Broxmouth, and the opportunity for comprehensive AMS dating and Bayesian modelling, has allowed for detailed consideration of the biographies of the structures, and the ways in which concepts of past, present and future were perceived and manipulated. Chapter 5 is therefore more thematic, with discussion of the various biographies of the roundhouses through 'Conception', '(Re-)Birth', 'Life' and 'Death'. Considering roundhouses as 'living' entities, with use-lives and biographies, has proved hugely beneficial in understanding the ways in which different households manipulated their architecture over several generations of use. It has also allowed for the consideration of avenues of research which transcend traditional, temporally- and spatially-limited, approaches to the study of roundhouses; these are discussed (Chapters 5 and 6), as are the ways in which future excavation and analysis can help to further contribute to our understanding of the role of roundhouse architecture, particularly in the daily lives of past societies (Chapter 7).

1.4 **Aims and objectives**

My research seeks to understand how the design, construction and inhabitation of Iron Age roundhouses reflected, facilitated and affected the lives of their inhabitants. As such, it has focused upon the following aims and objectives:

1.4.1 ***Aims***

a) To understand how inhabitation of roundhouses created, and conveyed, a sense of place in Iron Age society

b) To understand how the biographies of roundhouses reflected, and affected, the temporality of Iron Age life through the creation and manipulation of social memory

1.4.2 ***Objectives***

a) To establish a theoretically-engaged, biographical approach to the study of the Late Iron Age roundhouses at Broxmouth

b) To reanalyse the Late Iron Age roundhouses at Broxmouth in order to understand their development over time

c) To develop an AMS dating strategy for the Late Iron Age roundhouses at Broxmouth

d) To understand the social significance behind the re-use of house-stances at Broxmouth

e) To understand the social significance behind the use of different materials within the Late Iron Age roundhouses at Broxmouth

Chapter 2: Broxmouth in Context

2.1 **The roundhouse 'revolution'**

Despite antiquarian studies of broch architecture throughout the nineteenth and early twentieth centuries (e.g. Anderson 1873, 1877; Dryden 1890; Joass 1890; Petrie 1890), and the recognition of 'hut-circles' in the early inventories of the Royal Commission on the Ancient and Historic Monuments of Scotland (e.g. 1911; 1924; 1933), the roundhouse was not generally recognised as a widespread later prehistoric phenomenon until the late 1930s. Even then, excavation tended to focus on just two distinct forms of roundhouse architecture: the stone-built brochs of Atlantic Scotland, and the large timber structures of southern England, with Little Woodbury in Wiltshire (Bersu 1938; 1940) assuming the role of 'type-site' for this region, and beyond. This polarisation, which also affects other chronological periods (e.g. Owoc 2004a, 109) and continues to impact upon Iron Age studies today, is neatly summarised on the front cover of Harding's (2009) recent synthesis of the topic (Fig. 2.1).

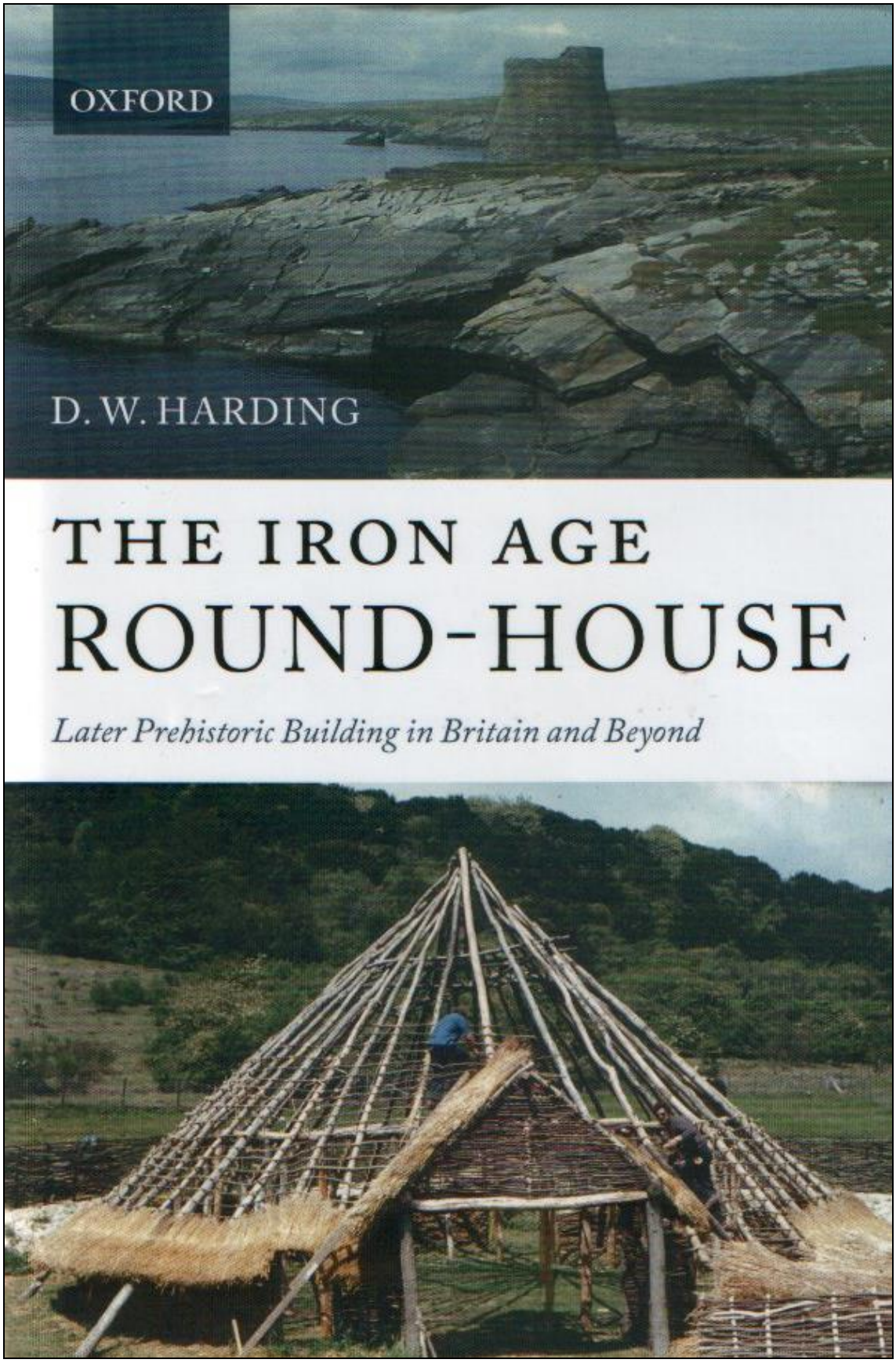


Fig. 2.1 The traditionally polarised nature of study between Atlantic Scotland and Wessex, as played out on the front cover of D. W. Harding's *The Iron Age Round-house* (2009).

2.2 **Roundhouse typologies**

Geographical polarisation in the study of roundhouses served to mask the complexity and variety of architecture present. This ultimately hindered research for a number of years, with roundhouses perceived as identical and homogenous backdrops to Iron Age life, and portable material culture deemed more appropriate for understanding the more nuanced aspects of social identity (e.g. Hawkes 1959). With increasing excavation however, the variety of roundhouse architecture became apparent, and attitudes began to change. Recognition of such variation was particularly significant in Scotland, since its generally poor and undiagnostic artefactual record could not be used in the construction of detailed regional chronologies and 'cultural' identities, as it was in southern Britain. Thus, in Scotland, roundhouse and settlement typologies became the northern counterpart for Hawkes' (1959) ABC model (Piggott 1966). In this model (*ibid*), Scotland was divided into four 'provinces' (Tyne-Forth, Solway-Clyde, North-East and Atlantic; Fig. 2.2) which roughly equated with different ethnic groups.

This preoccupation with cultural affinity was, necessarily, closely bound-up with chronology, and is exemplified by the excavation of Hut 1 at Hownam Rings, Roxburghshire (Scottish Borders), which sort to discover 'its date... rather than to obtain the fuller details of hut construction' (Piggott 1948). The 'Hownam Sequence' went on to become *the* definitive model of settlement development in south-eastern Scotland for at least the next twenty years. Only the application of radiocarbon dating from the mid-1960s, and an increase in rescue excavation in the late 1970s and early 1980s, provided sufficient evidence to undermine its

blanket application to the archaeology of the region, with Broxmouth leading the charge (Armit 1999, 68-70). Roundhouses themselves were also assimilated into general models, such as the 'five category' classification system developed by Feachem (1965, 107-120), and subsequently adopted by the RCAHMS inventories (e.g. 1967). This scheme assumed the chronological and unilinear development of roundhouses from simple-ring through ring-groove to ring-ditch, and culminating in stone-walled houses and houses of 'advanced design', the former of which was assumed to be a cultural import of the Roman army at the time of conquest of the region (c. AD 79/ 80). This interpretation was thought to be upheld by the common occurrence (as at Hownam Rings) of stone-walled roundhouses having been constructed over the denuded ramparts of earlier enclosed settlements, thought to reflect the inter-tribal peace bought about by *pax Romana* (Feachem 1965, 119; Jobey 1970a, 73). Roundhouse typologies were similarly used in Wales, with the settlement at Moel y Gaer, Flintshire being divided into two distinct phases of occupation based on the presence of post-ring and stake-walled structures (Guilbert 1976, 313-4; Fig. 2.3).

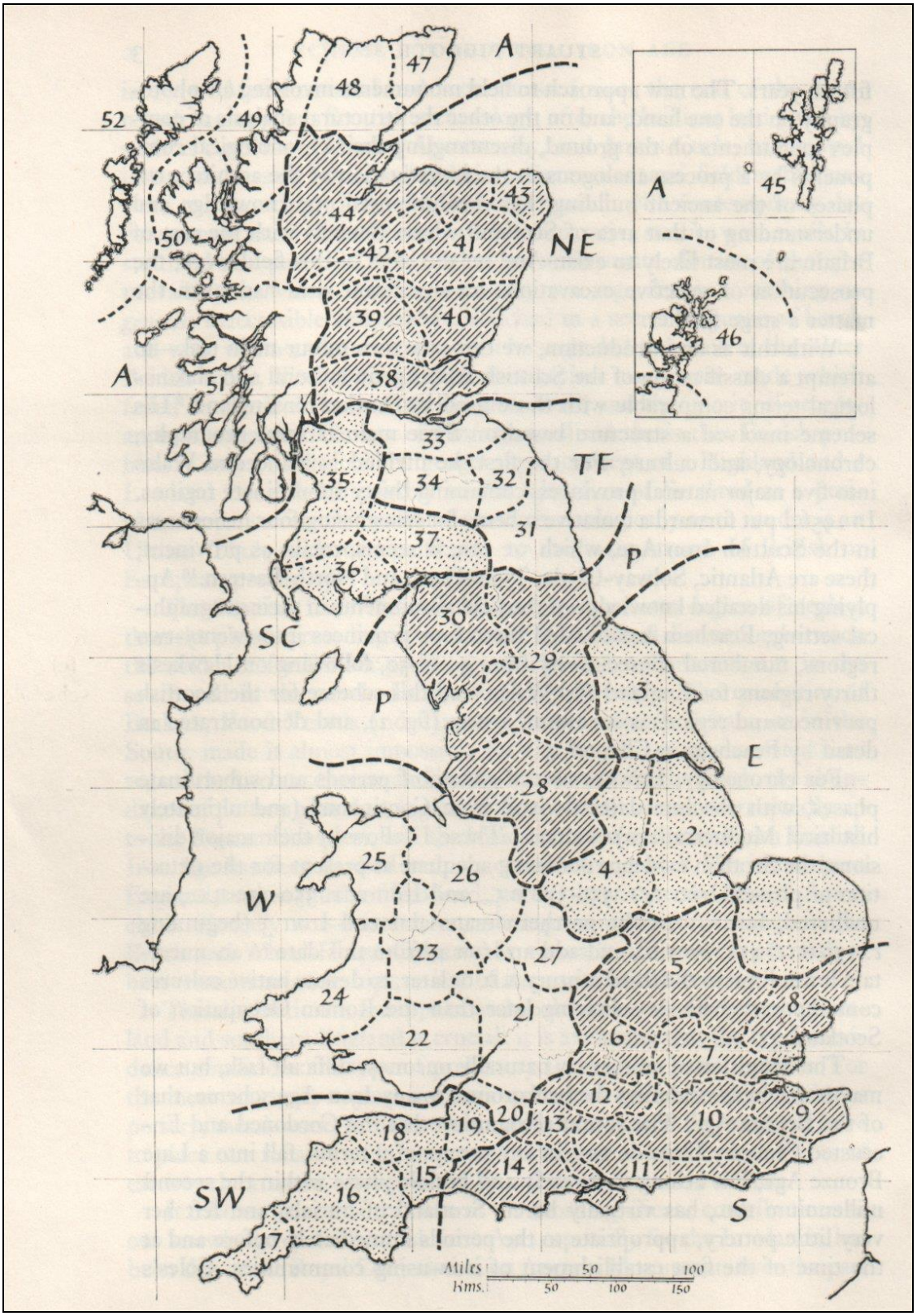


Fig. 2.2 Britain's Iron Age provinces (Piggott 1966, 4, Fig. 1, extending Hawkes' (1959) scheme for England and Wales). Scottish regions- TF: Tyne-Forth; SC: Solway-Clyde; NE: North-east; A: Atlantic.

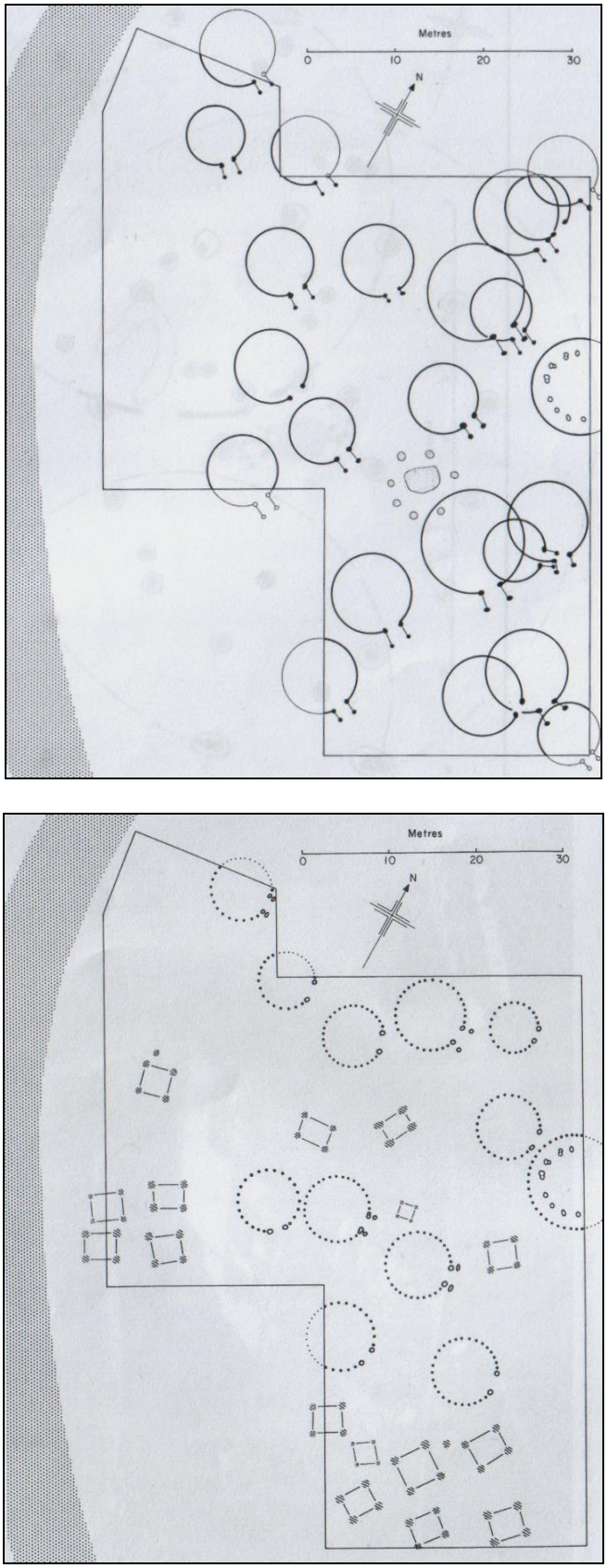


Fig. 2.3 Plans of the ‘post-ring’ (top) and ‘stake-walled’ (bottom) phases of Iron Age settlement at Moel-y-Gaer (Guilbert 1976, figs. 7 and 8)

Research in Northumberland in the 1960s and 1970s was dominated by the excavations of George Jobey, accompanied by the respective excavation units of the Universities of Newcastle and Durham, with near annual contributions to the journal *Archaeologia Aeliana* over twenty years, between 1960 and 1980. This corpus comprised predominantly later prehistoric settlement sites, which were excavated to a comparatively high standard for the day. With little or no scientific dating however, the construction of stone-walled roundhouses over hillfort ramparts (e.g. at Greaves Ash, Lordenshaws, Hownam Rings, Castle O'er and Bailliehill, Northumberland; Jobey 1965, 23, 57; 1966, 101-102; 1970, 81) and the recovery of diagnostic Roman artefacts such as samian ware, in otherwise poor artefact assemblages (e.g. at Manside Cross and Hartburn, Northumberland; Jobey 1965, 46; 1973, 49, 50), was taken to indicate a post-conquest (second to fourth century AD) date, rather than a pre-Roman Iron Age association; this was despite the recognition of pre-conquest stone-built ramparts, which demonstrated the successful use of stone by indigenous communities (Jobey 1965, 23).

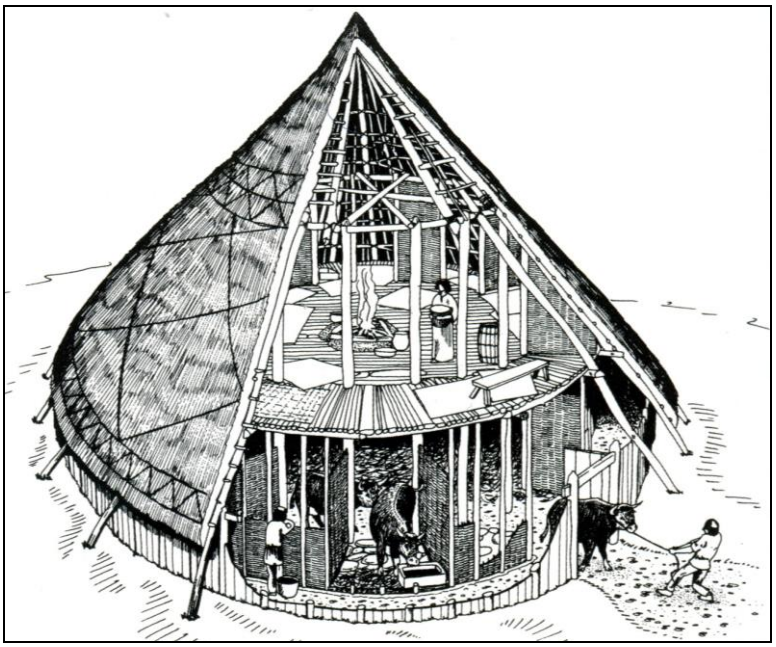
Experimental archaeology was also popular in the 1970s and 1980s, and dominated by the research undertaken by Peter Reynolds, and others, firstly at what is now the National History Museum of Wales (St. Fagan's) and later, at Butser Ancient Farm in Hampshire (Reynolds 1979a). Rather than producing generic reconstructions based on an 'average' of the excavation record, Reynolds (1989, 35) highlighted the importance of creating 'constructs' based on site-specific roundhouse ground-plans (e.g. the 'Little Woodbury' house, the 'Moel y Gaer' house and the 'Pimperne' house (the latter illustrated in Fig 2.1).

The aim was not to construct these buildings for construction's sake, but to test certain hypotheses in their design, use and abandonment, and how this might be recognised in the archaeological record. Reynolds' legacy in illustrating the relevance and contribution of theoretically-informed experimental work has however, to some extent, been eroded, with a return to more tourist-focused *reconstructions* (Sharples 2010, 174).

Other aspects of the processual approach attempted to introduce a 'human-element' into quantification of the archaeological record, by attempting to estimate prehistoric populations, based, for example, on the floor area of buildings (Naroll 1962), or the grain storage capacity of pits (Jeffries 1979; critiqued in Reynolds 1999). Naroll (1962) used data gathered from eighteen ethnographic and ethnohistoric societies from North America (6), Oceania (6), South America (3), Africa (2) and Eurasia (1), to suggest that household population could be calculated as one-tenth of its area in m^2 (i.e. each person requires $10m^2$ of floor area). It is not clear however, whether or not this calculation was based on societies whose dwellings functioned solely as human occupancies or whether multiple functions, including the housing of animals for example, had been taken into consideration. Cook (1971) highlighted the need to refine the model by applying calculations only to one *type* of settlement and dwelling, a task which was taken up by Clarke (1971) in relation to Pueblo households and by Casselberry (1974) with respect to multi-family dwellings. Once again however, the sole human occupancy of these structures is not confirmed.

The presence of paved ring-ditches in some Scottish roundhouses certainly suggests dual human-animal occupancy; post-rings are increasingly interpreted as evidence for upper storeys housing human occupants, with livestock stalled below (see Fig. 2.4). Meanwhile, whilst household population calculations can provide crude (scale-order) comparisons between structures, such mathematical models tend to make over-arching functional assumptions which leave little room for human agency and social factors in determining the use of space (cf. Hodder 1991, 13).

In the same vein, Clarke's (1972) reassessment of Glastonbury lake-village attempted to 'meet the mass of observations from a selected site with a set of experimental models and the manipulative capacity of the computer' (*ibid*, 802). The main aim of Clarke's study was to ascertain the various functions performed by the roundhouses within the settlement, in order to understand the underlying social organisation of its inhabitants and how they functioned as a social and economic *system*. The same approach lay behind the later development of 'access analysis' (e.g. Foster 1989; see section 2.2.3).



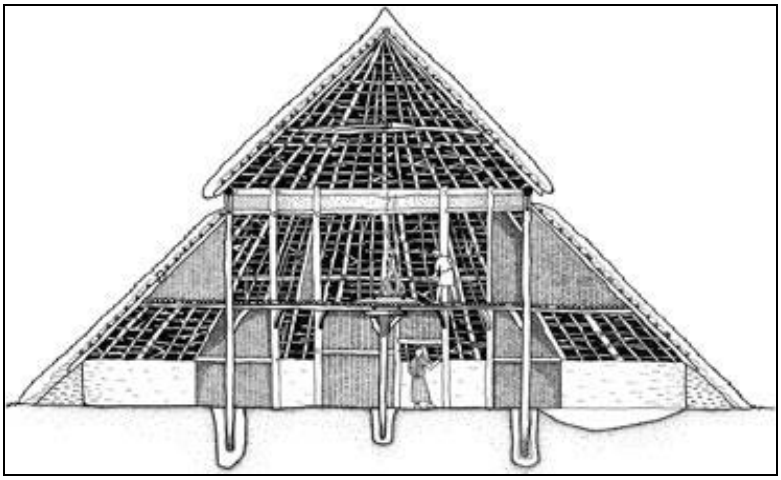


Fig. 2.4 Cattle stalled inside the reconstructed Kintore roundhouse at Archaeolink (top; Pope 2008, 16); Artist's representation of a ring-ditch house [Houses A and B] at Broxmouth (middle; Armit 2005, 32, Fig. 15); Artist's representation of the complex roundhouse at Birnie, Moray (bottom; National Museums Scotland).

2.3 **The rise of 'traditions'**

It is this, essentially processual, approach to the archaeological record which framed the excavation and initial interpretation of Broxmouth. The work of George Jobey and Peter Reynolds appear to have been particularly influential on Peter Hill and indeed, frequent reference is made to the work of both individuals in discussion of the Broxmouth roundhouses. This is particularly true of the postulated reconstructions, and resource requirements, of each structure (Reynolds and Hill 1995; see Table 5.1, section 5.1.1; Appendix A), which frequently assumed the presence of, often tenuously identifiable, post-rings, apparently considered a structural necessity (section 4.2.1).

Broxmouth's own contribution to the discipline was considerable, particularly in south-eastern Scotland, where not only was it pivotal, along with sites such as Dryburn Bridge (Triscott 1982; Dunwell 2007), in undermining the well-established 'Hownam Sequence' (cf. Armit 1999), but it added considerable weight to the hypothesis that stone-walled roundhouses in the Tyne-Forth region were *pre*-Roman in origin. This hypothesis was forwarded by Jobey in his later work (e.g. 1974, 17; 1975, 34; 1977, 11), with increasing recognition that stone-built roundhouses appeared to develop on house-stances occupied by earlier timber structures of indigenous construction (*ibid* 1974, 34; 1978, 24; 1982, 20); the long occupational sequences at Broxmouth, and the handful of accompanying radiocarbon dates, though not definitive, appeared to confirm this.

In order to reflect the likely indigenous, pre-Roman origin of stone-walled architecture, the term ‘Votadinian house/ tradition’ was coined (Hill 1982b, 27), after the tribe which (according to interpretations of Ptolemy) occupied the region during the later Iron Age (Fig. 2.5); the ‘seat’ of this tribe was assumed to be Traprain Law (c. 12km west-south-west of Broxmouth), at least partly due to the discovery of the ‘Traprain Treasure’ (a hoard of Roman silverware) in 1919 (Armit *et al* 2006, 602, 605). The validity of a ‘Votadinian tradition’ has since been questioned, as has the geographical location of the Votadini (Goldberg 2010), and the likely existence of homogenous and recognisable tribal identities at this time (cf Moore 2011). Certainly, there appears to be little Late Iron Age settlement activity at Traprain Law in the pre-Roman Iron Age (Armit *et al* in prep. 2015), and, writing in the second century AD, it is likely that Ptolemy’s first century sources were third-hand at best.

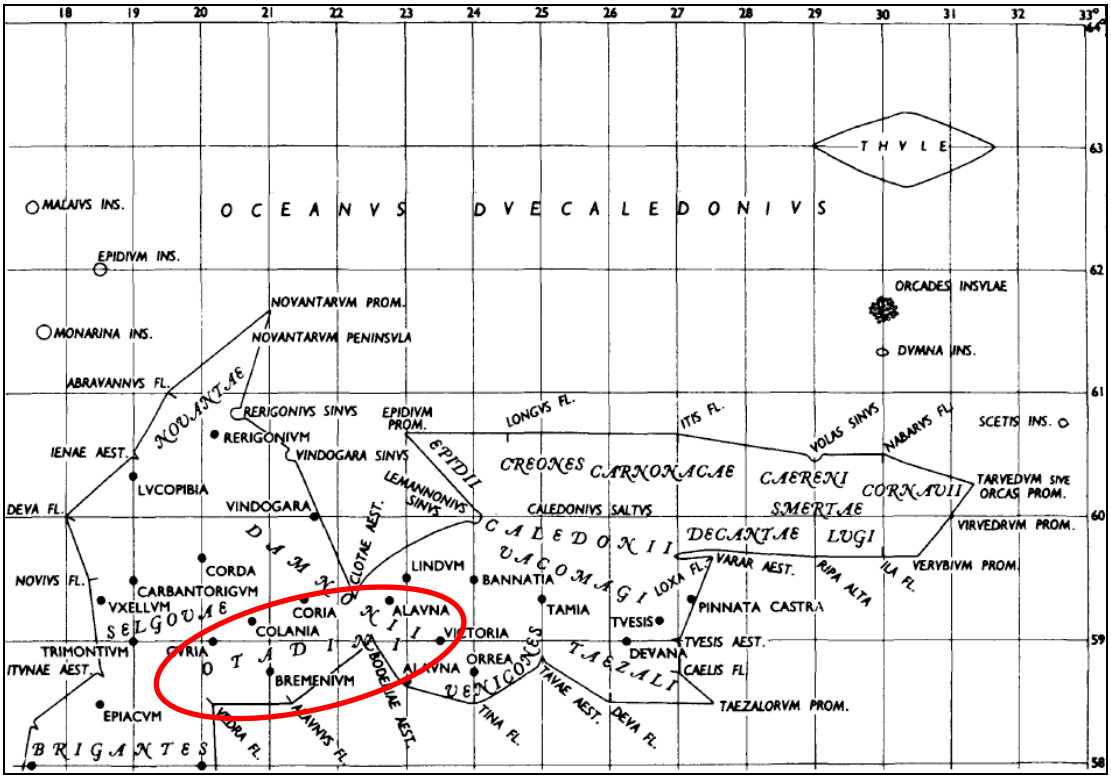


Fig. 2.5 Tribal map of northern Britain based on Ptolemy, showing (red circle) the supposed approximate territory of the Votadini (after Mann and Breeze, 1987, 86, illus. 1).

Nevertheless, the term was adopted in contemporary literature, though, unfortunately, used in different ways, and taken to mean different things by various authors. Although Hill (1982b, 27; 1982c, 9) used both the terms 'Votadinian tradition' and 'Votadinian house', only the latter appears to have been adopted by subsequent authors, and as a substitute for 'stone-walled roundhouse' (e.g. Armit 2005, 109; Harding 2001, 369; Macinnes 1982, 33), which simplified some of the complexities and specificities of Hill's (1982b, 27) original definition. The term was, in fact, coined to include the composite and timber structures at Broxmouth, as well as the stone-walled roundhouses, and other structures elsewhere within the Tyne-Forth region (Fig. 2.7), which shared a standardised distribution of internal features (e.g. pits). Thus, the 'Votadinian tradition' was not designed to be fabric-specific (something Hill (*ibid*) was keen to avoid), but to emphasise internal organisation as a classification tool. Indeed, Hill (1982c, 9) saw the timber, composite and stone-walled roundhouses at Broxmouth as effectively representing different stages in the *same* 'Votadinian tradition'.

As is apparent in Fig. 2.7, the comparative 'Votadinian' sites are by no means numerous and lie well to south, although they likely represent the only sufficiently well-preserved and well-excavated sites available at the time. Nevertheless, this distribution somewhat undermines the attribution of Broxmouth to a broader 'Votadinian' cultural entity. If truly representative of a coherent group, these southerly sites would better fit recent re-interpretations of Votadinian territory, which place it exclusively within Northumberland, and East

Lothian, instead, occupied by the Maeatae (Goldberg 2010). Several other stone-walled roundhouses (though less well preserved), *are* known in East Lothian, such as those excavated at Lafarge Quarry, Dunbar (Gooder 2005) and at Knowes, 2km from East Linton (Haselgrove *et al* 2009; section 4.4.4), where one paved surface included an orthostatic sill stone, as in House 4. None however, are known from Dryburn Bridge, roughly 2.5km south-east of Broxmouth (Dunwell 2007, 104). Futhermore, the most remarkable and striking parallel for the Broxmouth roundhouses is, in fact, located at Chapel House Wood, Yorkshire Dales (Martlew 2011, 67-71; Fig. 2.6), and surely warns us against correlating roundhouse morphology with specific cultural groups.

Fig. 2.6 Roman Iron Age stone-walled structure at Chapel House Wood, Yorkshire Dales (Martlew 2011, front cover). Photograph looks north from the rear of the structure (up-slope) towards the entrance (down-slope). The successive, concentric wall-lines can be seen in the foreground, the wall-cores of which were packed with deposits containing significant quantities of animal bone.

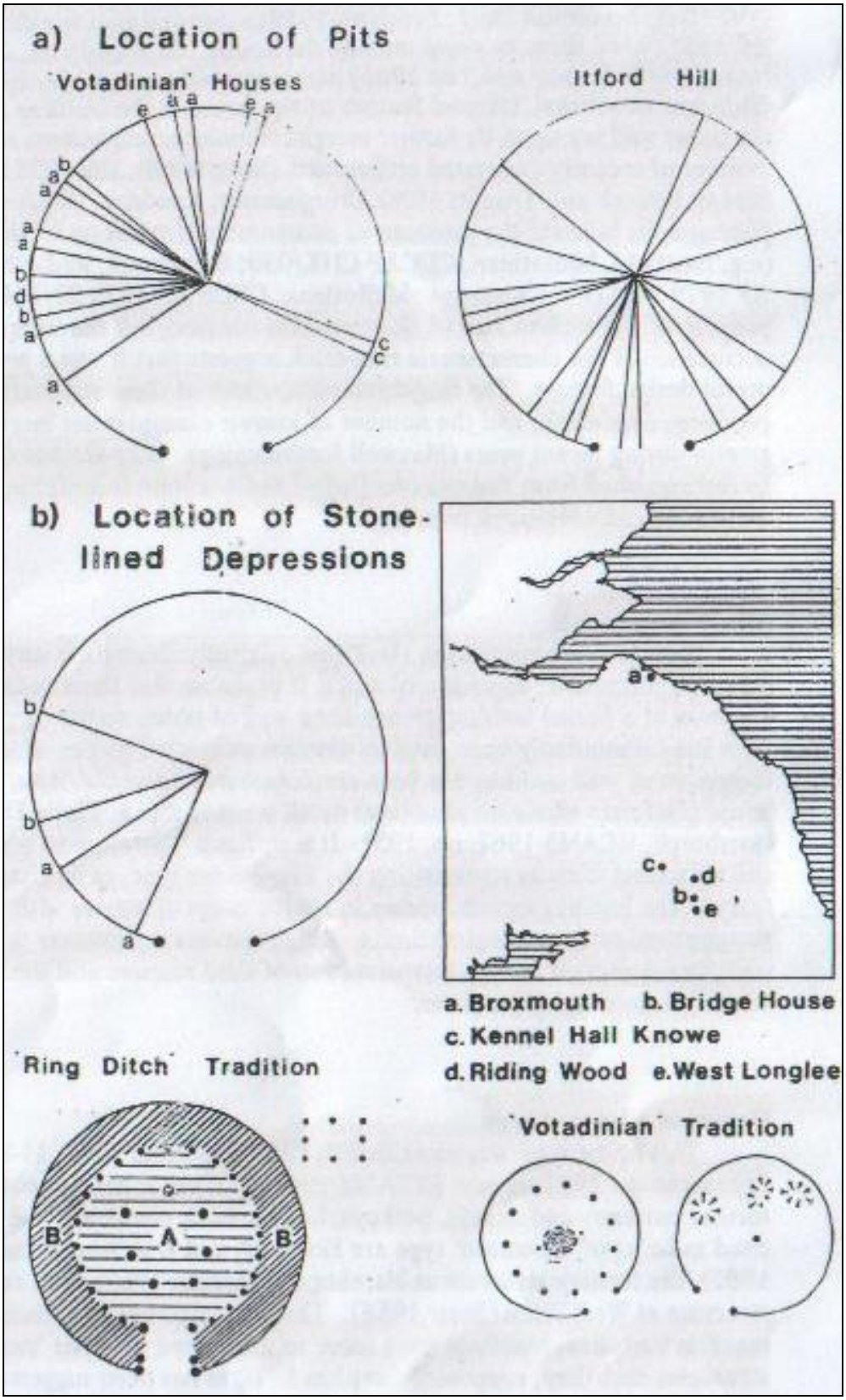


Fig. 2.7 Comparison of feature distribution with roundhouses of the Tyne-Forth region, coined the 'Votadinian tradition' (Hill 1982b, 26, Fig. 1)

Despite the problems of assigning cultural or tribal labels to roundhouse architecture, and the ways in which the term 'Votadinian tradition' has been subsequently adopted and used, Hill's interpretation of the Broxmouth roundhouses reorientated focus away from traditional morphology (and fabric-) based approaches to classification, towards one which considered the ways in which structures were *used*, and how this changed over time (Table 2.1). This highlighted the active nature of roundhouses in the everyday lives of their inhabitants, and also opened-up the possibility for discussion of *time*, as experienced and rationalised through the development of houses and house-stances. It is these themes which form the core of my research and will be explored in detail throughout the thesis.

Hill's interpretations also prompt consideration of the various ways in which 'tradition' has been used to describe or interpret archaeological material. Hill coined the term to refer to elements of similarity over a considerable period of roundhouse development, whereas those who subsequently adopted it used it to describe a distinctive structural *type* of roundhouse, of perceived, fixed date and duration.

Feachem's (1965) classification	**Hill's (1982b) classification**	**Hill's (1982b) interpretation**
Simple-ring	X	
Ring-ditch	✓	Same ('annular') tradition
Ring-groove	✓	
Advanced Design	X	
Stone-walled	'Votadinian'	Evolved/ 'alien' ('non-annular') tradition

Table 2.1 Hill's (1982b) reclassification of Feachem's (1965) roundhouse 'typology' based on fabric and structural morphology

2.4 **Experiencing roundhouses**

Despite Broxmouth's significant contribution to roundhouse studies in south-east Scotland, some important aspects of the initial report, including the 'Votadinian' debate, were not fully, or subsequently, developed. Since the excavations at Broxmouth, over 30 years ago, significant changes in methodological practice and theoretical approach have taken place, which now allow for further interpretation of the data through reanalysis.

With a desire to better understand the social and ideological concerns of past societies, 'access analysis' (Hillier and Hanson 1984; Foster 1989) attempted to relate the organisation of structures and settlements to concepts of social space (such as the division between public and private, secular and ritual); its application was, however, limited only to well-preserved and complex settlement types (e.g. the Orkney broch-villages; Foster 1989, 46, fig. 5).

Early attempts at access analysis (e.g. Hillier and Hanson 1984), as with other structuralist approaches, tended, however, to apply cross-cultural dualisms to the archaeological record, in which the potential for individual agency was limited (cf. Hodder 1991, 49). The relationship between spatial and social organisation has since been appreciated as far more dynamic, with space being both produced by, and (re-)producing, social relations (Foster 1989, 40). Simple translations between social order and architecture are problematic, and Foster's (1989) integration of structuration theory into access analysis attempts to better understand built spaces as 'social arenas', where individual 'actors' have the potential to implement change (Borić 2008, 13; Hodder 1991, 50).

More recently, the concept of dualism, particularly between domestic/ secular/ mundane and ritual spheres, has been much undermined, with the acknowledgement that these are indivisible from one another (cf. Bradley 2005; Hodder 1991; Oswald 1997; Parker Pearson and Richards 1994a; Parker Pearson and Sharples 1999). Focus has now shifted to the 'ritualisation' of the everyday (Bell 1992; cf. Bradley 2005, 33), and the ways in which cosmologies, and other world views, of past societies are bound-up in daily life. Contextual, and site-specific, reading of the archaeological record is particularly important in this regard (cf. Hodder 1987), although the discipline, has, of late, been grappling with integration of these detailed, small-scale studies into interpretations of past societies at a broader spatial and temporal scale.

From a methodological perspective, the introduction of single-context recording, and subsequently, a greater understanding of taphonomic processes, together with improvements in dating techniques (e.g. single-context AMS dating), has allowed for detailed consideration of roundhouse biographies. There has also been greater acknowledgement of the variety and complexity of these structures, which are now appreciated not as merely passive backdrops to human existence, but an integral and active component in everyday life (cf. Hingley 1990; Oswald 1997, 93-94; Reid 1989, 26). The increased use of ethnographic studies (e.g. Horton, M. 1994; Lane 1994; Oliver 1987) has also helped illuminate the ways in which daily and cosmological concerns of past societies are expressed through architecture (Oswald 1997, 93-94), though it is important that relational analogy, whereby likely significant relationships are

highlighted, is used over formal analogy, in which direct parallels are drawn (Pope 2007, 209).

One important study recognised the predominant south and south-easterly orientations of Iron Age roundhouse entrances (Oswald 1997; Fig. 2.8). Rather than interpreting the phenomenon in purely practical terms, such as the desire to shelter from prevailing south-westerly winds and/ or maximising light infiltration (Hingley and Miles 1984, 63), Oswald (1997, 93-4) sought a more cosmological explanation, supported by ethnographic evidence from the *hogans* of the Hopi Native-American Indians and the yurtas of nomadic tribes of central Asia. Closer to home, the long, semi-subterranean passageways of the wheelhouses of the Western Isles (which also commonly faced south-east/ east) would have rendered them in near total darkness irrespective of orientation (Armit 2006, 250), thus requiring more than a practical explanation.

Oswald's hypothesis was developed by Fitzpatrick (1994, 69, Figure 20.4), and subsequently by Parker Pearson and Sharples (1999; Fig. 2.9), who interpreted the circular shape of the roundhouse as pivotal in facilitating the tracking of the sun and the organisation of daytime and night-time tasks accordingly. This model was further extended to view the roundhouse as a metaphor for the human life-cycle (Fig. 2.9). Whilst this interpretation is an important acknowledgement of the likely ritualisation of everyday life (cf. Bradley 2005), the 'sunwise model' has been criticised for its reliance on formal ethnographic analogy, its reinforcement of structuralist dichotomies, its generalised

application over broad spatial and temporal scales, and its apparent disregard for taphonomy (cf. Pope 2007).

Indeed, increasing awareness of the likely extent to which roundhouses expressed the cosmological concerns of their inhabitants led to the suggestion that much associated material may represent ‘structured deposits’, rather than the products of ‘everyday activity’; this hypothesis is supported by evidence for the periodic ‘sweeping out’ of roundhouse interiors during their occupation (Armit 2006, 241, 244). The sheer number of pot sherds recovered from individual postholes in the Dunston Park, Longbridge Deverill and Broomfield roundhouses supports their interpretation as structured deposits rather than daily refuse (Webley 2007, 132-140). In fact, the clustering of cooking pits- cut-features far more likely to indicate areas of daily (and specifically perhaps, daytime) activity- almost exclusively in the north of these roundhouses, directly contradicts the ‘sunwise model’ (*ibid*, 141). Certainly, Bradley (2005, 208-209) argues that it is *only* the selective deposition of material, rather than the chaos of everyday life, that we observe in the archaeological record.

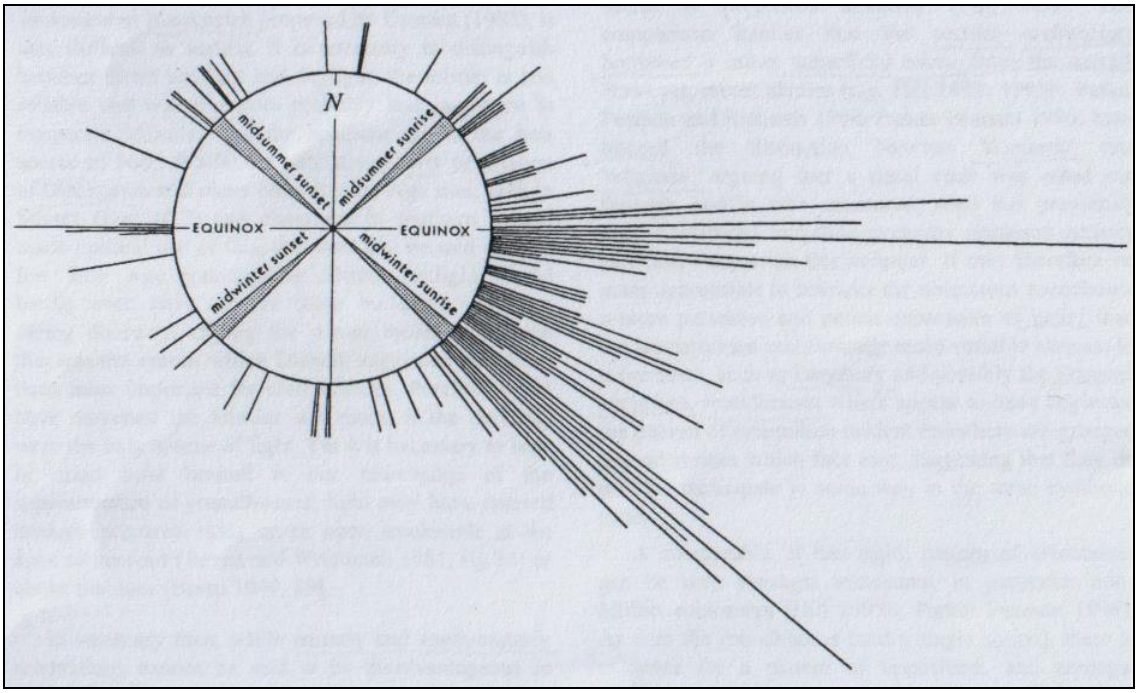


Fig. 2.8 Doorway orientations of Iron Age roundhouses in relation to cardinal solar directions (Oswald 1997, fig. 10.4)

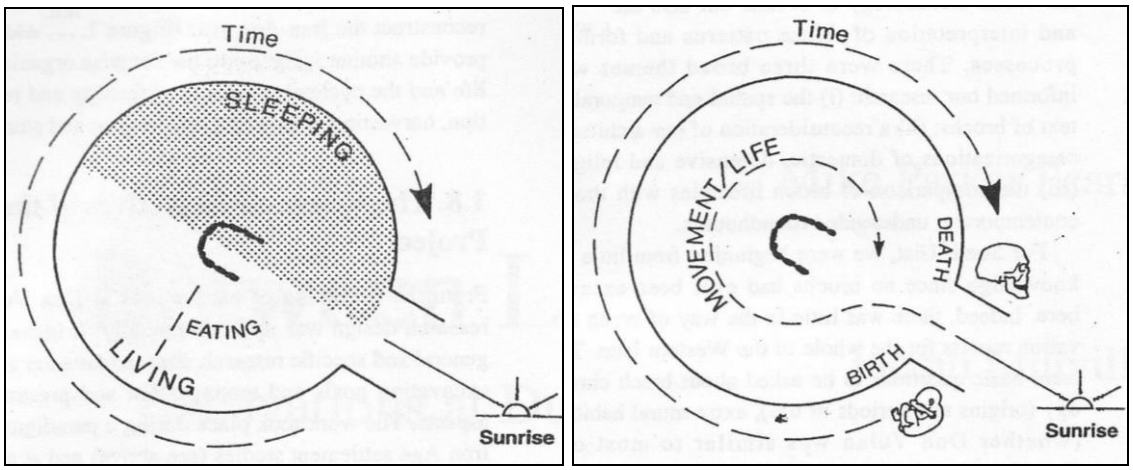


Fig. 2.9 The ‘sunwise model’: showing the organisation of daily tasks according to movement of the sun (top); and showing the roundhouse as a metaphor for the human lifecycle (bottom; Parker Pearson and Sharples 1999, 22, fig. 1.10a and 1.10c)

More recent roundhouse studies have therefore utilised contextual approaches, rather than the creation of generalising models. Perhaps the most influential of these is ‘phenomenology’. At the Bronze Age settlement of Leskernick, on Bodmin Moor (Tilley *et al* 2000), ‘doorframes’ and plastic wrapping were used to frame the landscape from the roundhouse entrance, and highlighted that structures were often orientated towards local tors and cairns (*ibid*, 53; Fig. 2.10). Meanwhile, some structures appeared to have been structurally abandoned through the crossing of their door jambs to symbolically block access to their interiors (Fig. 2.11).

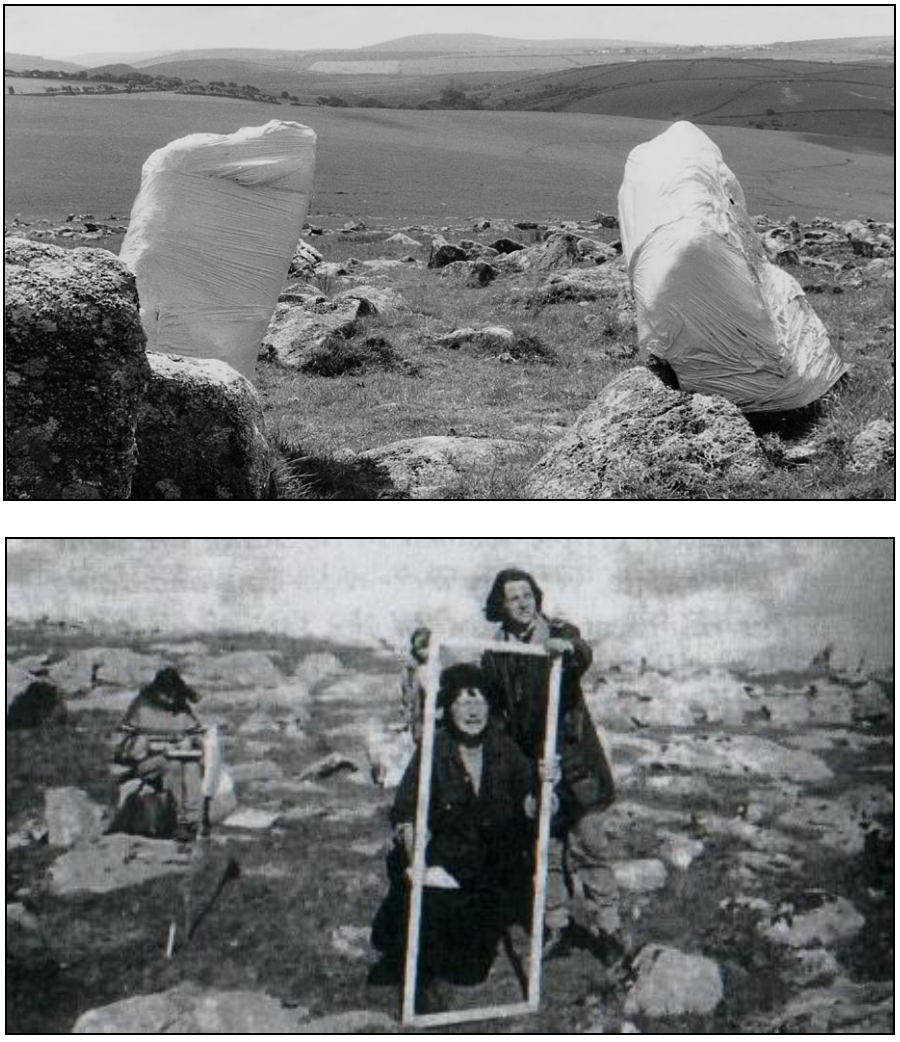


Fig. 2.10 Viewing the landscape at Leskernick, Bodmin Moor through (top): the wrapped and painted door-jambs of Bronze Age house 35, orientated towards the summit cairns of Brown Gelly in the distance (Tilley *et al* 2000, 50, Fig. 9); and (bottom): a wooden doorframe (Bender *et al* 1997, 166, Fig. 14)

Fig. 2.11 The crossed door jambs of House 9 at Leskernick, Bodmin Moor, interpreted as an act of ‘structured abandonment’ (Bender *et al* 2007, colour plate 3b)

2.5 **The roundhouse as metaphor**

'Sites and features of the landscape can be seen as engines for the creation of time, through the repetition at them of ritualized acts' (Gosden and Lock 1998, 6).

'...two of the distinctive features of the Maori meeting house. It was simultaneously regarded as a living being and as a way of representing the passage of time. Thus many of the architectural features stood for parts of the body of an ancestor, whilst movement along the axis of the building involved a progression from the past to the future. Both ideas can be combined, for if the house is considered as a living being, it can be born, grow old and die. In that way its biography is linked directly to conceptions of time' (Bradley 2005, 51).

As we have seen, the study of roundhouses has developed significantly since the excavations at Broxmouth, particularly in consideration of their social and cosmological aspects, and the active role they played in the everyday life. This is not to say that the functional aspects of roundhouses are unimportant; indeed, Hodder (1991, 54) rightly suggests that function plays an important role in assigning meaning to objects (or structures). As such, 'cosmologies are hard to glimpse, being interwoven in archaeological material with evidence of the more general patterns of human action which made life intelligible at all' (Gosden 1997, 304). Thus, the dichotomy between functional and idealistic interpretations should be replaced with a greater emphasis on the combination of these aspects in equal measure, and with equal primacy given to each. Examples of this include materiality approaches to the past (e.g. Hurcombe

2007; Ingold 2007; Meskell 2005) and those which focus on the 'ritualisation' of the everyday (Bell 1992; Bradley 2005). These two approaches feature heavily in reanalysis of the Broxmouth roundhouses.

Gosden and Lock (1998, 4, 6) acknowledge that ritualised actions will have 'special, time-binding properties', since the very nature of ritualised action is, either consciously or unconsciously, repeated action; in other words, 'time and space are shaped and structured through repeated actions which have particular spatial extent and temporal rhythm' (Gosden 1997, 304). Thus, despite the criticisms of the 'sunwise model', the likely ritualised behaviour behind the design, use and abandonment of Iron Age roundhouses suggests that they were also bound-up with perceptions of time. Indeed, Bradley (2005, 56-57) also considers the design, use and re-use of roundhouses to reference the annual cycle of the seasons, or the agricultural year, and thus a cyclical perception of time, in contrast to the more linear and generational concept of time suggested by contemporary rectangular structures on the Continent (Table 2.2).

	Northern Europe	Britain and Ireland
Prevailing architectural style	Rectangular houses	Roundhouses
House offerings	Distinct deposits associated with creation and abandonment of houses	Uniform range of deposits associated with thresholds throughout history of house
Sequence over time	Successive houses in diff. locations	Successive houses superimposed/ overlapping
Prevailing conception of time	Linear, punctuated, generational?	Cyclical?

Table 2.2 The structure, development and associations of houses in Northern Europe, compared with the evidence from Britain and Ireland (after Bradley 2005, 57, Table 2.1)

The maintenance and manipulation of the landscape in the construction and rationalisation of time is well illustrated by the Broxmouth roundhouses, particularly the stone-walled structures, which were re-worked on the same house-stances over several decades. As such, it is possible to look at the individual and combined biographies of each of the structures (and house-stances). If houses and people are 'mutually implicated in the process of living', then houses can be 'born, live, grow old, die and decay' (Carsten and Hugh-Jones 1995, 46) and in this way, their biographies are linked directly to conceptions of time (Bradley 2005, 51). More specifically, the biographies of roundhouses, particularly instances in which these biographies are punctuated with deliberate acts of transformation or remembrance, can provide insights into the lives of their inhabitants, both within and across the generations (cf. Jones 2008a, 107; cf. Sharples 2010, 201). In this way, the roundhouse becomes a lens through which the lives of past societies can be observed at a variety of scales, whilst also allowing for a holistic interpretation of the evidence (landscape, settlement and artefacts), rather than the, often fragmented, analysis which this evidence receives (Gosden 1997, 307). Indeed, Borić (2008, 111) views the 'house' as mediating between the human body and the landscape, by incorporating, symbolically and metaphorically, elements of both. This holistic approach is reflected in the structure of Chapter 5, which includes discussion of the landscape setting of the roundhouses, and the artefacts deposited within them, rather than solely focusing on the structures themselves.

Whilst the merits of studying extended roundhouse biographies are clear, adequate archaeological evidence is often lacking. At Broxmouth however, the

well-preserved nature of the house-stances and their structures, in part due to their rendering in stone and the nature of their re-use, makes them ideal candidates. The detail of analysis permitted is reflected in the structure of the thesis, which discusses each 'stage' in the biographies of the roundhouses separately (i.e. conception, (re-)birth, life and death). This discussion focuses not only on the built structures themselves, but also extends their use-lives backwards, to 'conception', including choices over location, resources and design, and forwards to post-abandonment memorialisation and/ or transformation ('death'), since 'there is always a tension between the inheritance from the past, the intentions of the present and the possibilities held by the future' (Gosden and Lock 1998, 4).

Whilst the Broxmouth evidence lends itself to a detailed study of roundhouse biographies, it is not sufficient to consider the site in isolation. The development of contextual archaeology, as a rejection of generalising, processual models, has led to a reluctance in returning to larger scales of analysis; this is, however, necessary, despite the difficulties involved. Indeed, Gosden (1997, 304) suggests that 'we have yet to really consider the question of whether the local can only be understood in its own terms, in which case the Iron Age as such does not exist, or whether we can draw threads from particular cases with which to weave a broader fabric'. Similarly, Hodder (1991, 10) acknowledges the necessity of small-scale analyses 'in order to examine the link between individual, meaningfully constituted events and *long-term* structures'.

Whilst the Broxmouth roundhouses offer the opportunity for small-scale analyses on the one hand, on the other, their attribution to the 'Votadinian tradition' has pushed them to the forefront of broader discussions of regional identity, tribal or otherwise. Furthermore, their chronological and temporal association with a region in constant flux during the Roman Iron Age, also implicates them in discussions concerning continuity, change and interaction between native and conquest populations; an area of archaeological debate so large that it manifests itself as the sub-discipline of 'frontier studies' (cf. Freeman 1996). The implications of the Broxmouth findings for broader debates within the discipline are addressed in Chapters 6 and 7, though their contribution to broader 'frontier studies' narratives are outside the scope of the current work.

Chapter 3: Methods and Materials

3.1 **Parameters of research**

The thesis concerns the detailed reanalysis of the Late (Pre-Roman) Iron Age and Roman Iron Age settlement (Phase 6) at Broxmouth. As the product of a Collaborative Doctoral Award (CDA), this research is both an integral part of, and complementary to, publication of the site by The Broxmouth Project (Armit and McKenzie in press, 2013a), with Chapter 4 of the thesis forming the basis for Chapter 7 (The Late Iron Age Village; Büster and Armit in press, 2013) in the monograph. The following pages will outline the Broxmouth settlement sequence, the archival sources used, methods of reanalysis, and theoretical approaches to assimilation and presentation of the data as 'House biographies'.

3.2 **The Broxmouth settlement**

3.2.1 ***Settlement sequence***

Six main phases of Iron Age activity were identified at Broxmouth (Table 3.1 and Fig. 3.1), preceded by ephemeral Late Neolithic evidence (a pit and possible denuded cairn yielding several flints and pottery sherds) north of the Iron Age enclosure (Armit *et al* in press, 2013), and succeeded by a single, early medieval inhumation (Grave 4; cal. AD 400-540, SUERC-21989; Hamilton *et al* in press, 2013) in the settlement interior. Whilst, therefore, most activity appears to have been Iron Age in date, there is evidence that the site was utilised, intermittently, over a much longer period.

Whilst the roundhouses which form the focus of this study are confined to the latest Iron Age activity (Phase 6) at Broxmouth, it is important to place them within the wider context of the settlement's (pre-)history, particularly since, as will become clear, many aspects of their architecture and associated deposits appear to draw upon this distant past.

Phase	Bayesian-modelled dates (cal.)		Character
	95%	**68%**	
Late Neolithic	No dates available		Pit and possible denuded cairn yielding several flints and pottery sherds
1	*715-515 cal. BC*	***640-490 cal. BC***	Timber palisade succeeded by 2 large ring-ditched roundhouses (Houses A and B), each realigned on at least one occasion; evidence for metalworking from associated yard. Graves 1 and 2.
2	*515-400 cal. BC*	***490-395 cal. BC***	Early (bi-vallate) hillfort: Inner and middle ditches with opposed E and W entrances
3	*400-320 cal. BC*	***395-295 cal. BC***	Later (uni- to tri-vallate) hillfort: Additional ditches (3 in total, plus a 4th partial ditch), W entrance blocked and replaced by monumental SW entrance
4	*320-255 cal. BC*	***295-235 cal. BC***	Ditches infilled and settlement spreads outward-only the remains of structures B-G which have sunk into the W, upper, Inner Ditch fills have survived
5	*255-135 cal. BC*	***235-100 cal. BC***	Midden spread over Inner Ditch structures; inhumation cemetery laid out beyond northernmost ditch. Grave 3.
6	*135 cal. BC- cal. AD 255*	***100 cal. BC- cal. AD 155***	Unenclosed settlement of 8 surviving roundhouses (likely originally more extensive) laid out along a road running through the SW entrance.
Early medieval	cal. AD 400-540 (95.4%) (not modelled)		Grave 4: Inhumation burial (male) in the former settlement interior

Table 3.1 Dates and characteristics of the Broxmouth sequence (after Hamilton *et al* in press, 2013). The modelled 68% range (bold) is considered the most likely (D. Hamilton, pers. comm.), and is therefore quoted in Fig. 3.1.

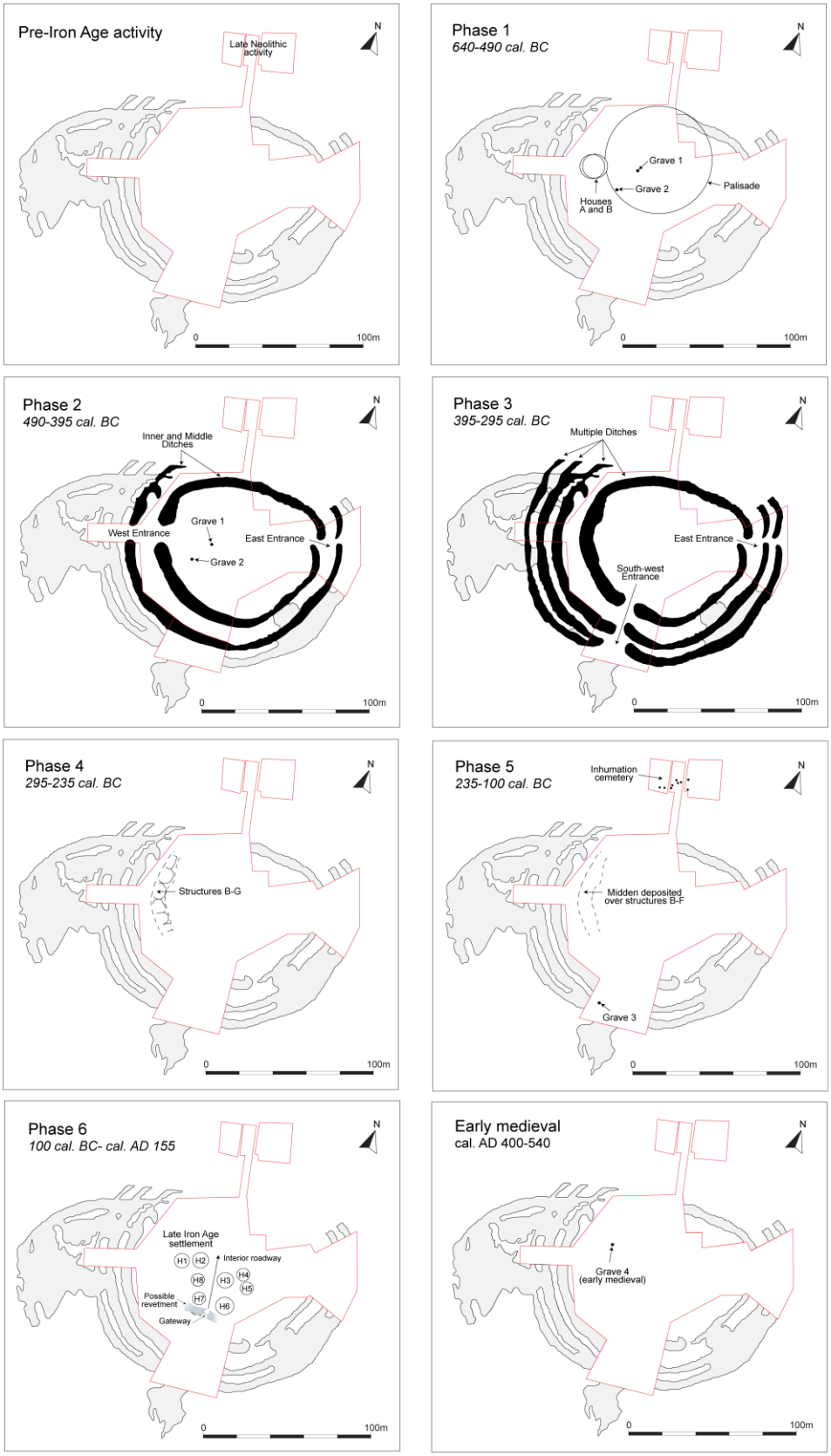


Fig. 3.1 Schematic plan of pre-modern activity phases at Broxmouth (image: author; see Table 3.1 for descriptions of each phase). Modelled dates (italics) are quoted at 68%; the AMS date for Grave 4 (early medieval) is not modelled and is quoted at 95.4%.

Phase 1 is characterised by a timber palisade which is superseded by a large ring-ditch house (House A; Fig. 3.2). House A is itself replaced by a second structure (House B) of similar size and morphology (Fig. 3.3; Armit and Kershaw in press, 2013a), whilst the yard surface associated with these structures produced evidence for accomplished metalworking (McDonnell in press, 2013). These structures are thought to represent the surviving remains of a much larger settlement which was truncated by subsequent Iron Age activity in the settlement interior; they have survived due to their sealing by the Phase 2 Inner Ditch rampart. Two females, with evidence of trauma and interred within the settlement interior, also date to this phase (Armit *et al* 2013).

Fig. 3.2 Houses A and B, with the palisade trench visible in the foreground (photograph: Broxmouth archive).

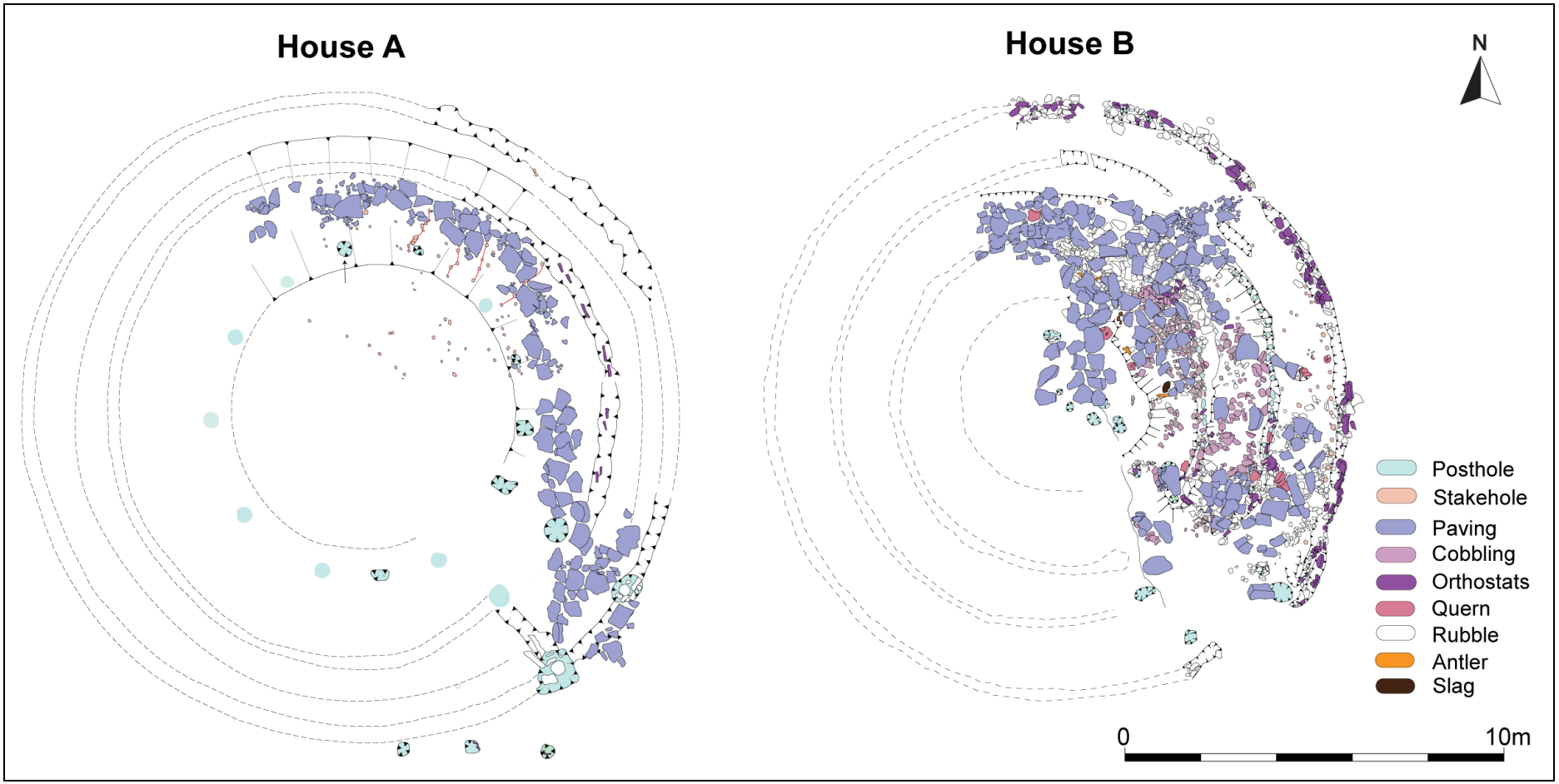


Fig. 3.3 Composite, multi-stage plans of Houses A and B (image copyright The Broxmouth Project). House A comprises two stages and House B, three.

Phase 2 sees the construction of a bivallate enclosure (Inner and Middle Ditches and Ramparts) with opposing West and East Entrances. The enclosure presumably surrounded a settlement, though no evidence of it survives (Armit and McKenzie in press, 2013b).

Phase 3 saw the extension of this enclosure to include three full circuits, with a fourth partial ditch in the south-west, though it is not clear whether all were in use contemporaneously (Armit and McKenzie in press, 2013b). The West Entrance was blocked, and a new, more monumental South-west Entrance constructed; this route, though modified through time, was used as the main point of access for the remainder of the Iron Age activity at Broxmouth. The East Entrance appears not to have been blocked and so presumably continued in use for the remainder of the Iron Age settlement phases. As in Phase 2, no structural evidence survives from the settlement interior.

In Phase 4, the enclosure ditches were infilled. It is likely that, at this time, the ramparts also ceased to be maintained, though the (albeit denuded) outer circuits would have continued to influence movement in and around the site. Structures (B-G), which survive only as small paved areas with the occasional hearth, but which appear to represent roundhouses of ring-ditch form, were constructed over the infilled Inner Ditch (Fig. 3.4; Armit and Kershaw in press, 2013b). As in Phase 1, it is likely that they formed part of a larger settlement, truncated by later, Iron Age activity; they survive only because they subsided into the Inner Ditch, below the level of truncation, as its infill material settled.

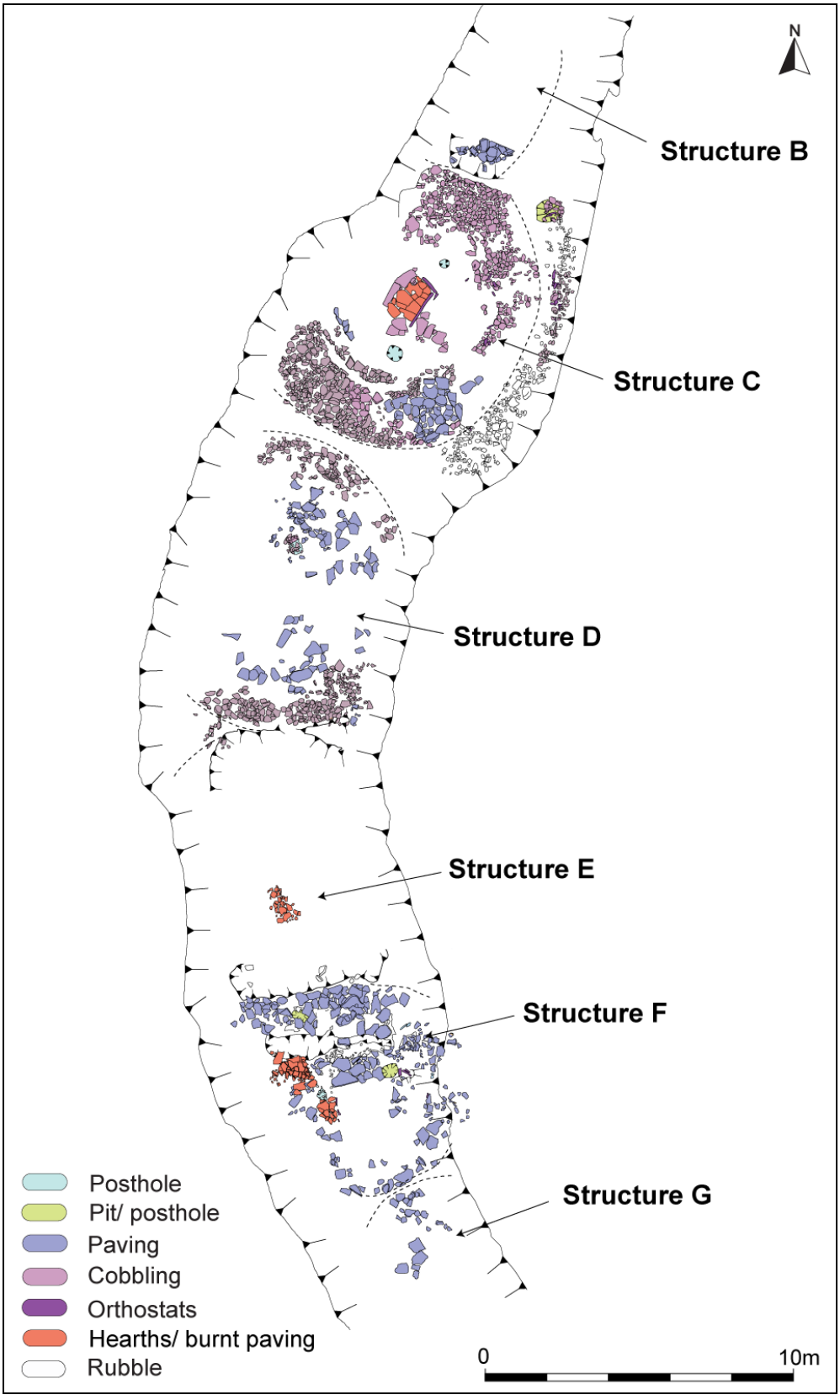


Fig. 3.4 Phase 4 Structures B-G, overlying the infill of the Inner Ditch. These structures were only ephemerally preserved, as patches of paving with associated hearths, but it is thought that they represent a more extensive settlement, itself truncated by later phases of activity (image copyright The Broxmouth Project).

Phase 5 saw the deposition of midden material over the Phase 4 structures, indicating that they were abandoned at this time, but that settlement activity continued within the interior (Armit *et al* in press, 2013). It also saw the laying out of a formal inhumation cemetery, containing ten individuals in nine graves (e.g. Fig. 3.5), to the north of the site, immediately outside the Outer Ditch; in fact, the cemetery was only discovered due to the clipping of one of the graves by a trench dug to record the Outer Ditch. Bayesian modelling of AMS dated skeletons in the cemetery (*195–150 cal BC; 68% probability*) suggests that it may have been in use for only a few generations (Armit *et al* 2013). A further female was interred in the South-west Entrance roadway at this time, the slabs lining her grave apparently protruding through the metalled surface and visible to those passing by (Fig. 4.92, section 4.9.1).

Fig. 3.5 Grave J, one of the best preserved and most ornately constructed graves of the Phase 5 cemetery (photograph: Broxmouth archive).

Phase 6 represents the latest Iron Age activity on site, and is discussed in section 3.2.2, whilst the latest pre-modern activity at Broxmouth is a male inhumation burial of early medieval date (Fig. 3.1, Table 1.3).

3.2.2 ***Phase 6: The Late Iron Age settlement***

Phase 6, the focus of this research, is represented by an, apparently enclosed, settlement of, broadly contemporary, stone and timber roundhouses (Houses 1-8, Chapter 4), which are laid out along a roadway running through the South-west Entrance (Fig. 4.1). Severe plough truncation to the north and east of the site has probably destroyed the remains of a more extensive settlement. Several yard surfaces and various pits suggest some activity external to the roundhouses themselves, though the site interior appears to be densely settled, with little space between structures.

The exceptional preservation of the Phase 6 roundhouses (Houses 1-8) allows for the details and nuances of roundhouse biographies and everyday life in the Iron Age to be discussed; detail which is often lacking at sites outside Atlantic Scotland. These structures appear to have formed a coherent group, and, with the intermediate spaces between them, provide an opportunity for understanding the ways in which they functioned together as a settlement. The detailed AMS dating programme has also allowed for study of the ways in which the Phase 6 settlement developed over time, particularly significant given its 1st/ 2nd century BC/ AD date, spanning a period during which the people occupying this area must have witnessed significant changes, including multiple episodes of Roman advance and withdrawal.

3.3 **Methods of reanalysis**

3.3.1 ***Sources***

Reanalysis of the Broxmouth material began with the original site archive (plans, sections, slides, site books), rather than synthetic reports (i.e. Hill 1979; 1982; 1995). Returning to the raw archive was particularly important given the influence the findings cited in the published reports had on the discipline, both then and now; it was, therefore, important to be able to make as independent a judgement of the evidence as possible. Whilst some of the nuances of interpretation, remembered by the excavator (but perhaps not adequately recorded), were lost, separation of the primary archive from disseminated material was necessary to ensure that interpretations based on reanalysis were robust and could be substantiated.

The plans served as the starting point for all reanalysis, since it proved difficult, if not impossible, to make reasoned comment on features not recorded in this way. Conversely, the site books, though subjectively recorded, were at least completed on-site (at the time of excavation), and provided invaluable insights into the mind-sets of the excavators and the development of their interpretations. They also proved extremely useful where missing elements of the archive (for example, the context cards for Houses 4 and 6) required a degree of detective work to fully understand features recorded in plan.

The methodology of the 1970s excavation, which identifies the Houses as discrete units and, in the face of time and resource constraints, prioritised their recording over the intermediate areas between them, necessarily constrained

the structure of reanalysis to a primary focus on individual structures. Subsequent reanalysis of features outside of the house-stances themselves, however, attempted to overcome these biases and create a broader site narrative.

3.3.2 ***Terminology***

The term ‘Houses’ was retained throughout reanalysis and in subsequent discussion of the architecture at Broxmouth in order to facilitate navigation of the primary archive, which was predominantly organised in this way (i.e. Houses 1-7). This term is, however, acknowledged as a descriptive device only, and should not be interpreted as an assumption of roofed structures or a ‘domestic’ function (the exact nature of ‘domestic’ also being the subject of much debate). Likewise, since modern, western concepts of ‘family’ are unlikely to be appropriate in a prehistoric context, the term ‘household’ will be used in discussion of roundhouse inhabitants, with no assumption on the social or biological composition of this group (cf. Sharples 2010, 187). In discussion of comparative material, site-specific descriptive terms will be used, whilst more generally, discussion will utilise the morphological descriptor ‘roundhouse’ or, simply, ‘structure’. The term ‘stage’ is used to describe the various episodes of modification of the Phase 6 roundhouses, in order to distinguish activity taking place *within* Phase 6 from that occurring in earlier phases.

3.3.3 ***Products of reanalysis***

Data Structure Report

Reanalysis of the archive began with the compilation of databases of context/ feature codes for each House, together with the digitisation of plans in AutoCAD, and the scanning of section drawings and slides (Fig. 3.6). Tables of small finds were also generated for each structure from a master concordance (The Broxmouth Project archive), and comments in the site books typed-up. This information was combined to produce a Data Structure Report (DSR) for each House, which outlined all of the available evidence for each structure and included a context by context description of its features, together with the finds and faunal bone associated with them. Where possible, features were organised by stage; otherwise, they were organised by feature type (e.g. posthole, pit etc). All primary reanalysis for Houses 2-7 was undertaken by the author, but due to time constraints and the nature of the archive for certain aspects of the site, Data Structure Reports for Houses 1 and 8, and the interior roadway, were produced by other members of the project team.

AMS dating strategy

The DSRs were subsequently used by the author to formulate an AMS dating strategy for each House (Fig. 3.6), the results of which formed the basis for Bayesian modelling of the roundhouses themselves, where possible, and the Phase 6 settlement more generally (detailed in the 'Chronology' chapter (9) in the forthcoming monograph; Hamilton *et al* in press, 2013). Of the 123 AMS dates generated as part of the Broxmouth Project dating programme (another 35 were available from the 1980s dating programme), 45 (37%) of these related

to the Phase 6 roundhouses (with a further five radiocarbon dates from the 1980s).

Samples, where available, were submitted from those features deemed most appropriate for understanding the sequence of construction, re-use, modification and abandonment of each structure (i.e. wall-slots, wall-cores, sealed beneath paved surfaces etc). A maximum of eight samples per structure, where appropriate material was available, was deemed appropriate for the project's budget for AMS dating, but, in some instances, fewer samples were submitted due to a relative lack of faunal bone and/ or its accurate recording to those contexts. Only one sample was deemed suitable for dating from House 3 however, whilst the nature of recording of faunal bone during excavation constrained samples from most of the other structures to less than the maximum permitted.

Since taphonomic processes were considered to be potentially complex with the settlement interior, with the possibility of re-deposited material incorporated into house-stances, two samples were, where possible, submitted from each context (e.g. eight samples from four contexts) in order that the resulting AMS dates could be cross-checked against one another. Large pieces of unabraded material were targeted for sample selection, where available, though the relative lack of faunal material relative to the large midden deposits within the Phase 3 enclosure ditches did not always allow for the selection of articulated bone, as was the case for the dating strategy of the latter. The relevant faunal bone was

submitted to SUERC (Scottish Universities Environmental Research Centre, University of Glasgow) for analysis.

Bayesian modelling

Where dates were in statistical agreement, and did not indicate the presence of redeposited material, they were included in the Bayesian model for the date and duration of the Phase 6 settlement (Bayesian analysis was undertaken by D. Hamilton, SUERC). Bayesian modelling uses the stratigraphic relationship between dated contexts in order to constrain the, often large, date ranges returned on samples, and propose a tighter, more probable, date range. It must be borne in mind however that modelled dates are just that (i.e. dependent on a *model*, which is, in turn, a product of archaeological interpretation of the stratigraphy); a change in the interpretation of any stratigraphic sequence will, in turn, result in a different set of modelled dates.

In some instances, close statistical correlation between the AMS dates and the stratigraphic sequence for individual house-stances allowed for the creation of a Bayesian model for specific Houses (i.e. Houses 2 and 5; see *Hamilton et al* in press, 2013). The calibrated AMS dates for each House are tabulated at the end of their descriptive passage (Chapter 4), and are quoted at 95.4%. Modelled dates for Phase 6, for individual Houses where they are available, and for settlement at Broxmouth more generally (Fig. 3.1; Tables 1.3, 3.1) are quoted at 68% and are represented by italic font. Since Bayesian modelling attempts to identify the most probable date range, and, unlike calibrated dates, tends to produce a uni-modal curve (i.e. one peak), the 68% range is quoted as

the most *probable* (the additional 27% of the range being very *improbable*; D. Hamilton pers. comm.).

House summaries

The DSRs (including those for Houses 1 and 8, and the interior roadway) were then condensed into shorter summaries by the author (Fig. 3.6). These were designed to chart the development of each House from construction to abandonment, and were therefore organised by stage, where possible. Only those contexts integral to major constructional or transitional events in the biography of the structure, and the ways in which it may have been used, were discussed. Relevant interpretations forwarded by the original excavator (i.e. Hill 1979; 1982; 1995) were evaluated, incorporated and discussed, where appropriate. The artefactual record and AMS dates, as and when they became available, were also fully integrated into discussion.

Monograph contribution

The summaries were used as the basis for the descriptive text in Chapter 4, and for the 'Late Iron Age Village' chapter (7; Büster and Armit in press, 2013) in the Broxmouth monograph (Armit and McKenzie in press, 2013a; Fig. 3.6). Artist's representations of the Phase 6 settlement and select, individual roundhouse interiors (drawn by Rebecca Hirst; Figs. 4.116, 4.118 and 4.119; sections 4.11.2, 4.11.3) were also commissioned by the author, based on (and with the intention of augmenting), the text presented in the monograph chapter (and in Chapter 4 below).

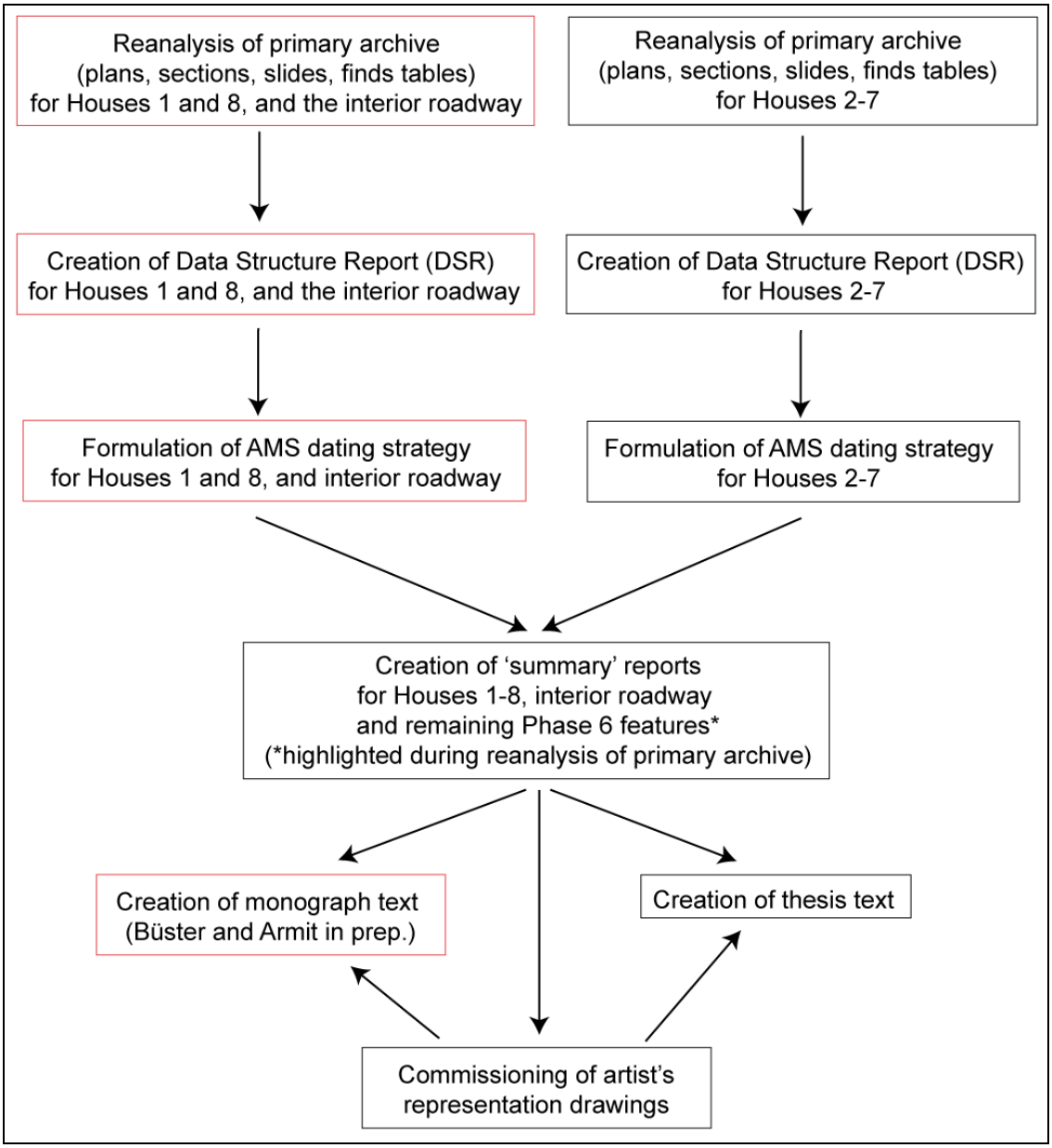


Fig. 3.6 Flowchart showing process of reanalysis of the Broxmouth Houses (image: author). Black outline indicates tasks undertaken by the author, red outline indicates tasks undertaken in collaboration with other members of the Broxmouth Project team.

3.4 ***Roundhouse biographies***

The House 'summaries' served as a transition between the raw data and higher level interpretation, and prompted consideration of the Broxmouth Houses at various points within their biographies. This approach (explored in Chapter 2, section 2.5) is more fully developed in Chapter 5, where a general description of each of the Broxmouth 'Houses' gives way to broader considerations of their biographies, through conception, (re-)birth, life and death; a similar approach is taken by Sharples (2010, 201) in his recent discussion of prehistoric roundhouses in Wessex.

The biographical approach to the data taken in Chapter 5 was influenced by a number of factors. First, was the exceptional preservation of the Phase 6 roundhouses at Broxmouth, not usually seen outside Atlantic Scotland, and no doubt aided by the stone fabric of many of the structures. The multiple re-use of many of the house-stances also prompted considerations of the motives behind modification, and the ways in which previous stages of occupation were memorialised and/ or confined to the past. The retention of fabric from previous stages, particularly noticeable in Houses 4, 5 and 7, was, in this sense, intriguing. Finally, the availability of funds, via The Broxmouth Project, for a detailed and comprehensive AMS dating programme allowed for a more nuanced break-down of significant events and transitional moments within the life of roundhouses.

Previous research on Iron Age roundhouses has tended to focus on structural and morphological topics. The contemporaneity of the Broxmouth Houses,

which comprise a variety of designs and structural fabrics, suggested however that this approach was not only less suited, but perhaps also inappropriate, for the Broxmouth material. Broxmouth instead presented an opportunity to move beyond discussions of roundhouses for their own sake, and to attempt to tell a story of the people who inhabited them. This necessitated a biographical approach (conception, (re-)birth, life, death; Fig. 3.7), since the biography of the roundhouse represents, in tangible form, the biographies (i.e. the lives) of its inhabitants, and given the longevity of use of the Broxmouth roundhouses, of generations of inhabitants (cf. Jones 2008a, 107).

Of particular importance was an understanding of the ways in which people used and re-used the roundhouses at Broxmouth to create social memory, and ultimately, a 'sense of place'. This is frequently a focus for landscape and settlement studies, but less so at the 'roundhouse' or 'household' level. The Broxmouth Houses provide the necessary detail of preservation to attempt this. In this way, not only was it necessary to consider the use of the structures once built, but also the decisions which took place in the minds of their designers, architects and would-be inhabitants prior to construction (as reflected in my discussion of 'Conception', section 5.1). Considerations of the different materialities of resources (cf. Boivin and Owoc 2004) have proved particularly insightful, as has the use of ethnographic studies, which again emphasise the integral human element in the creation of an archaeological record normally studied only as plans and sections.

At the other end of the process, understanding the ways in which structures or phases of occupation were abandoned, and/ or subsequently re-used, provides an important insight into perceptions of time, and its passing, during the Iron Age. Again, ethnographic sources proved invaluable in this regard (section 5.1.2). Just as today, people would have been aware of their past, and in pre-/ non-literate societies it would have even more important to communicate and accommodate the past and its lost generations through other means (i.e. the landscape and the structures which people inhabited). This brings us back to considerations of how a sense of place was created and manipulated by the inhabitants of Broxmouth, and the unique opportunity provided by the Phase 6 roundhouses.

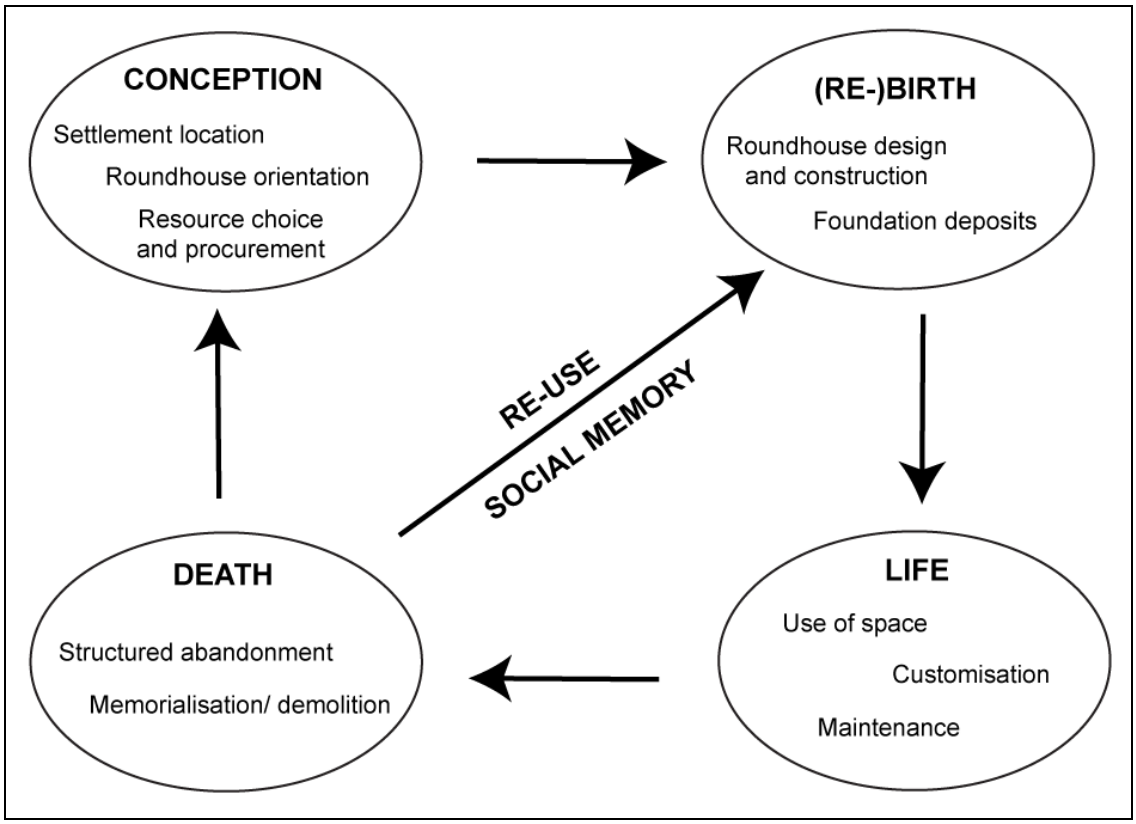


Fig. 3.7 Schematic diagram of the biographical approach to roundhouse studies and the different aspects of roundhouse construction, use and abandonment which this approach encompasses (image: author).

Chapter 4: The Phase 6 Roundhouses

The Late Iron Age settlement (Phase 6) at Broxmouth comprises eight, broadly contemporary, roundhouses (Houses 1-8), laid out along a roadway running through the South-west Entrance (Fig. 4.1); these are likely to represent the surviving remains of a much larger, apparently enclosed, settlement. These structures are the only comprehensive remains within the settlement interior; earlier phases of activity appear to have been truncated by later, Iron Age, occupation. A stone-faced earthen bank (Fig. 4.91, section 4.9.1) survives at the South-west Entrance and may have served to monumentalise this point of access into the settlement, or may have enclosed the entire settlement at this time. The denuded ramparts of Phases 2-3 (Table 3.1, section 3.2.1) are also likely to have remained visible to some extent, giving the added impression and experience of a settlement cradled within the ruins of a site with a long history of occupation. Not only would they have served as a conceptual boundary to occupation, they may also have constrained movement within and around the Phase 6 settlement, limiting access points and necessitating the ongoing use of the South-west Entrance, and possibly also the East Entrance, which appears never to have been blocked, unlike the West Entrance (Table 3.1, section 3.2.1).

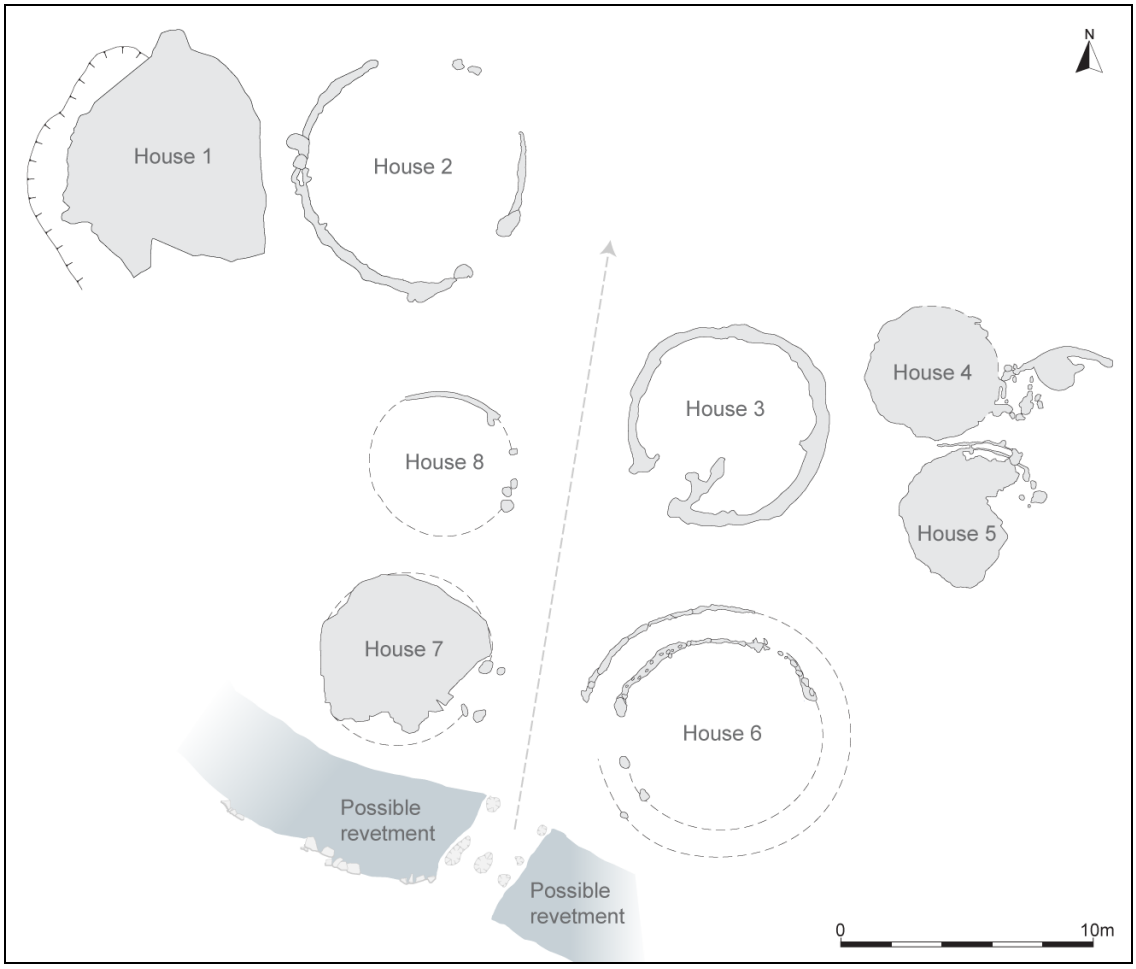


Fig. 4.1 The Late Iron Age (Phase 6) settlement at Broxmouth (image copyright The Broxmouth Project)

Bayesian modelling suggests that the Phase 6 settlement at Broxmouth began in *135-45 cal. BC* (95% probability), and probably in *100-60 cal. BC* (68% probability). Settlement activity spanned an overall period of *205-370 years* (95% probability), and probably *225-310 years* (68% probability), until its abandonment in *cal. AD 145-255* (95% probability), and probably in *cal. AD 155-210* (68% probability; Hamilton *et al* in press, 2013).

The variety of building materials and structural forms presented by the roundhouses prompts consideration of the decisions which lay behind resource use and procurement, whilst the longevity and re-use of the house-stances, and

the frequency with which they were modified, allows for the biographies of structures to be examined. Since these roundhouses represent, at least part of, a broadly contemporary settlement, including possible yard surfaces and roadways, they offer an opportunity to study the ways in which roundhouses functioned together, and how the dynamics of the settlement changed over time.

In order to facilitate synthetic discussion of the Broxmouth roundhouses in Chapter 5, it is necessary first to describe each of the Phase 6 roundhouses in some detail. This chapter, which also forms the basis for Chapter 7 (‘The Late Iron Age Village’; Büster and Armit in press, 2013) in the Broxmouth monograph (Armit and McKenzie in press, 2013a), outlines the surviving evidence for each of the Phase 6 roundhouses and associated settlement activity. These descriptive sections discuss the developmental history of each roundhouse by ‘stage’, where possible, in order to better understand the biographies of the roundhouses, and of the house-stances which they occupied.

4.1 **House 1**

House 1 is the most westerly of the Phase 6 roundhouses (Fig. 4.2), and its proximity (c. 1.2m) to House 2 suggests that these apparently contemporary structures may have formed a conjoined 'figure-of-eight' structure with direct east-west access between them (Figs. 4.3 and 4.5; see below). House 1 was constructed over an infilled quarry scoop cut into the Inner Ditch Rampart. This infill material was itself overlain by a rubble layer and heterogeneous deposit of ash and midden; AMS dates (Table 4.3) indicate that these were laid down in the earlier part of Phase 6, and suggest that this area was used as a midden dump, or for other activities, prior to the construction of House 1. House 1 therefore represents a relatively late Phase 6 roundhouse, and overlies a long sequence of activity (Table 4.3).

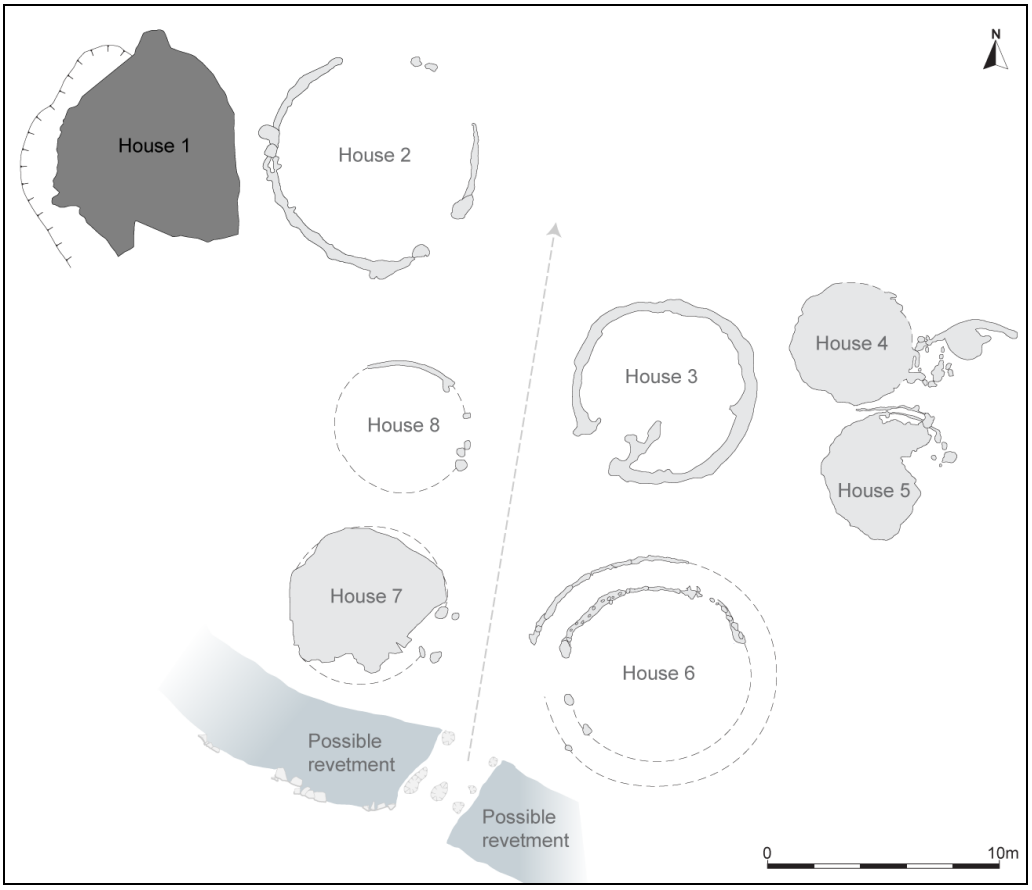


Fig. 4.2 Schematic plan showing the relative position of House 1 in the Phase 6 settlement at Broxmouth (image copyright The Broxmouth Project)

Archaeological evidence for House 1 differs significantly from that of the other Phase 6 roundhouses, and has made its structural form, and development, more difficult to elucidate. Much of the record comprises *layers* of material, the absence of which in the Phase 6 interior more generally, has made establishing stratigraphic relationships between spatially-isolated features difficult. It was hoped that the presence of such deposits in this area would aid stratigraphic analysis but they were excavated in ‘spits’, each comprising heterogeneous material which represented more than one depositional event; a single ‘layer’ is, for example, frequently described as both being ‘cut by’ and ‘infilling’ the same features (e.g. pits KEN, KEM, KEO; site book). This has made the analysis of House 1, both in terms of plan and relative stratigraphy, particularly difficult and necessarily crude.

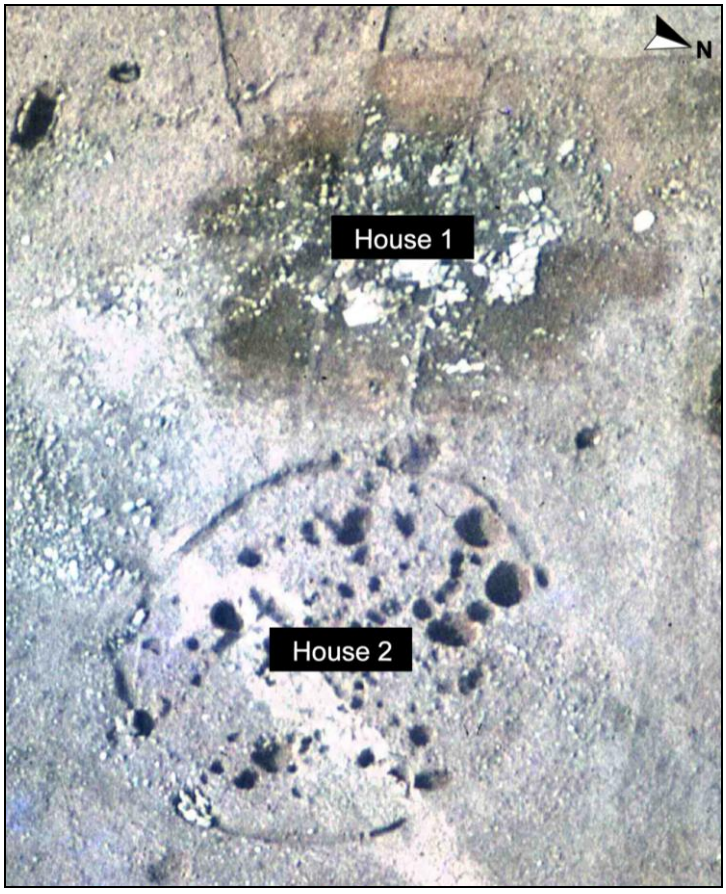


Fig. 4.3 The location of House 1 relative to House 2 (photograph: Broxmouth archive)

4.1.1 ***Description***

Wall

The structural form of House 1 has been difficult to determine, particularly since, in contrast to the other Phase 6 roundhouses, no trace of the wall surrounding the structure survives. Since some trace of a wall-slot, albeit severely truncated, may have been expected to have survived, had one ever existed, it seems unlikely that House 1 was surrounded by a timber wall. A short slot (KBB) bounds the north-western part of House 1 (Fig. 4.5) but, since two terminal postholes are visible, it does not represent the truncated remains of a more extensive timber wall-line. It is more likely, given ephemeral traces which may be identified on photographs (Fig. 4.4), that any House 1 wall was constructed of stone; this surface-built feature, if it existed, would not have received the same degree of protection from later plough damage and stone robbing as those constructed in the deeply scooped stances of Houses 4 and 7 (sections 4.4 and 4.7). Turf may also have been employed in wall-construction, but no definitive evidence of this material is recorded in relation to any of the Phase 6 roundhouses.

The best footprint of House 1 is represented in photographs (though unfortunately not in plan) by a heterogeneous humic layer (KAS; Fig. 4.4), which forms the foundation for a much truncated paved surface (KAW). The same humic deposit also seals House 1 during/ after its abandonment. This material, which includes concentrations of bone, shell and carbonised grain, demarcates a circular structure with a projected diameter of roughly 10m (78.5m^2). Two AMS dates (350-40 cal. BC, SUERC-36080; 370-120 cal. BC,

SUERC-36081) returned for this deposit significantly pre-date those yielded by the rubble and ashy deposits on which House 1 is founded (60 cal. BC- cal. AD 70 and cal. AD 80-250, SUERC-36077 and SUERC-36078; Table 4.3), suggesting that it includes some earlier, redeposited material; a similar phenomenon is observed in the terminal infill deposit of House 4 (section 4.4.6).

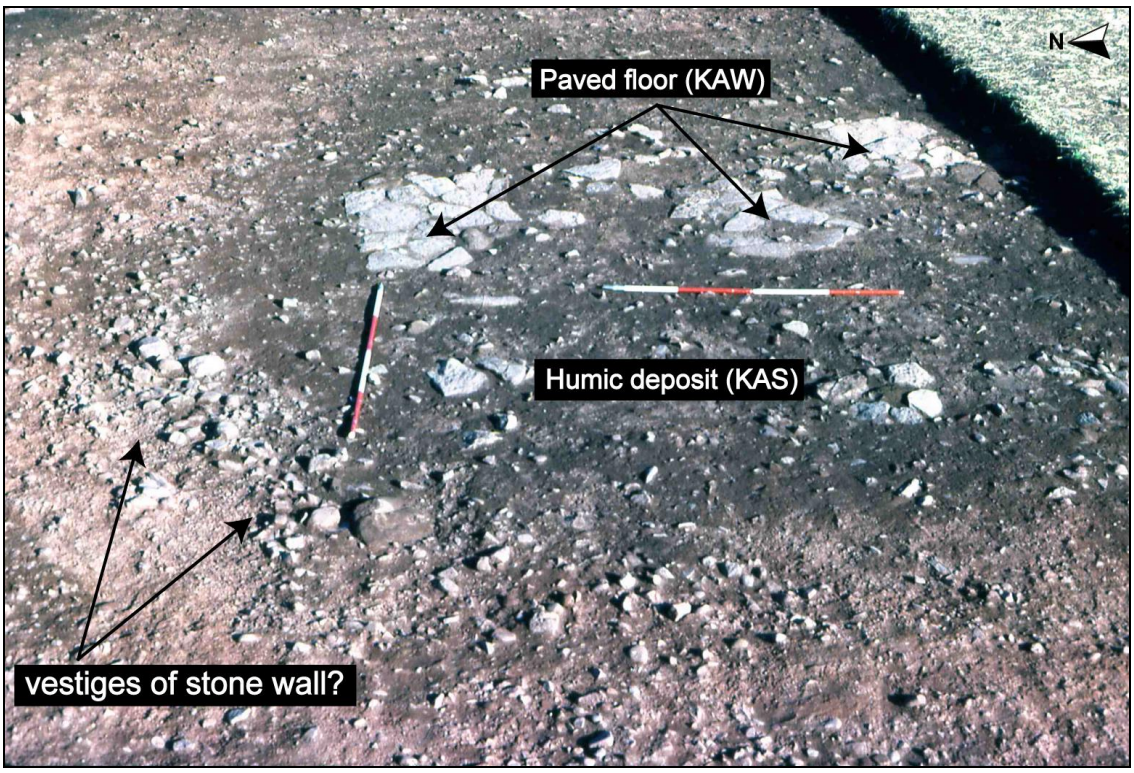


Fig. 4.4 The footprint of House 1 early in its excavation (photograph: Broxmouth archive). The circular house-stance represented by the dark, humic deposit (KAS) is not recorded on plan.

Since no wall-line survives, it has not been possible to identify a definitive entrance for House 1, but given its close proximity to, and contemporaneity with, House 2 immediately to the east, and the west-facing subsidiary entrance of the latter (see below), it is likely that the House 1 entrance was east-facing and provided direct access into House 2, thus superficially creating a composite structure with a 'figure-of-eight' plan (Figs. 4.3 and 4.5).

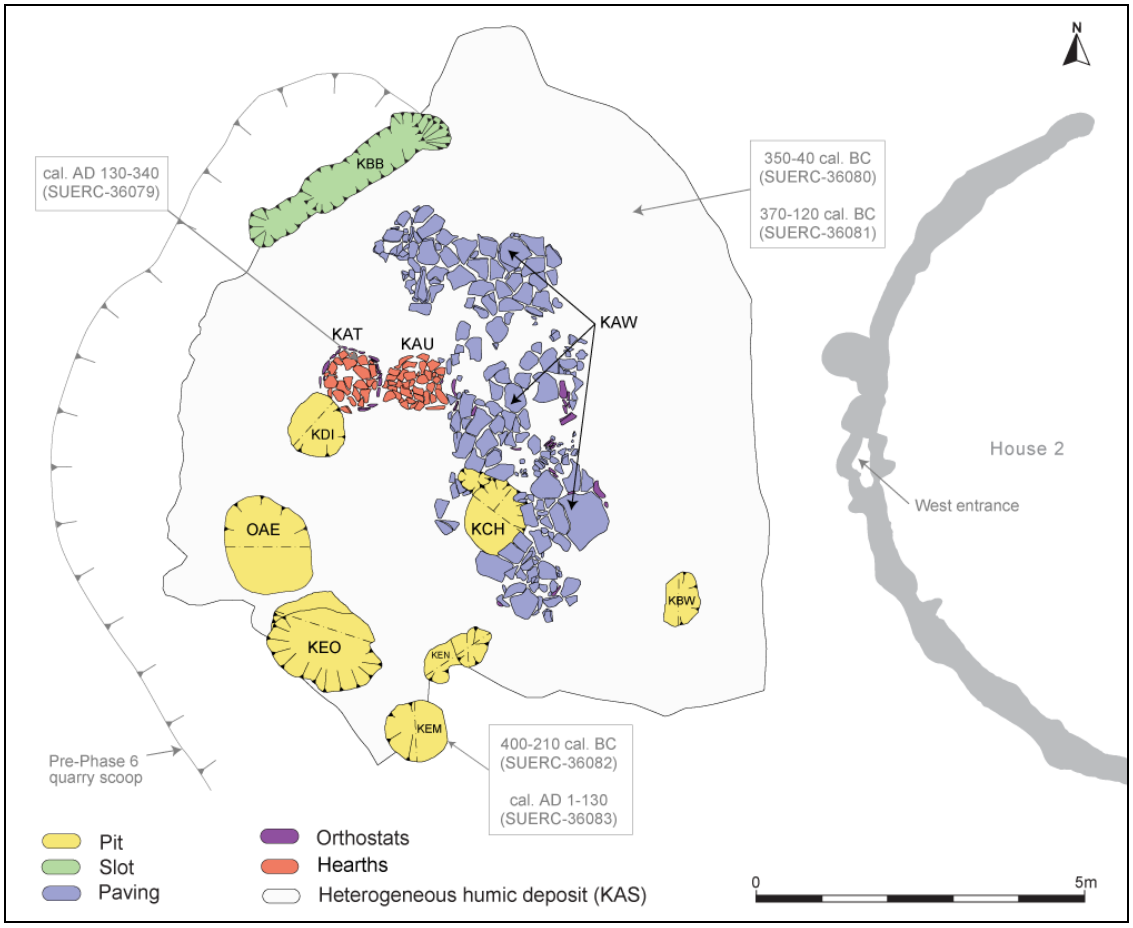


Fig. 4.5 Features associated with House 1, and the likely 'figure-of-eight' relationship between it and House 2 (image copyright The Broxmouth Project).

Paving

The paved floor of House 1 (KAW, max. dimensions: 6.5m N-S x 2.5m E-W) survived as three discrete areas of well-fitting limestone slabs, with small orthostats securing them (Figs. 4.5 and 4.6); this is likely to represent the truncated remains of a much larger surface. Straight edges to some of the paving may indicate the former presence of timber partitions, though they may equally be the result of stone robbing. The paving overlay a possible foundation deposit (Layer 6), containing 'limestone chips' and including a stone mortar (SF982; Table 4.2); this deposit extended beyond the extant slabs, suggesting that the House 1 floor originally covered a larger area.

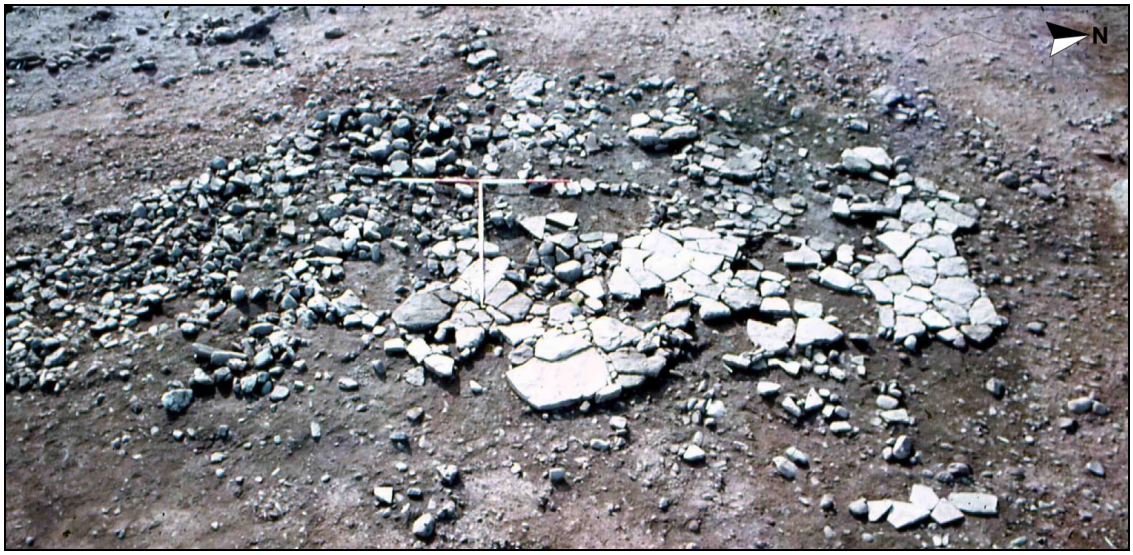


Fig. 4.6 The House 1 paving (KAW; photograph: Broxmouth archive)

Hearth

A double-hearth (KAT, KAU), lies north-west of centre in House 1; each hearth is sub-circular (roughly 0.9m in diameter) and comprises slabs set into a slight hollow, surrounded by a kerb of orthostats (Fig. 4.7). The easternmost of these two features (KAU) is constructed over a compact layer of small cobbles (KDE), which may represent part of the wider foundation deposit (Layer 6) for the paving. The function of this 'double-hearth' is unclear, but since no such feature is present in any of the other Phase 6 roundhouses, it may have performed a specialist function. These features lie slightly north of a putative hearth (not illustrated) within the rubble layer (4) underlying House 1, and may therefore indicate some continuity in use of space in this area, albeit more formally organised within the roundhouse at this time. A stone (quartzite) smoother (SF1043) was recovered from hearth KAT (Table 4.2); it may have been chosen specifically for this depositional context, due to its reflective and piezoelectrical properties (Saunders 2004, 136; Scarre 2004, 200).

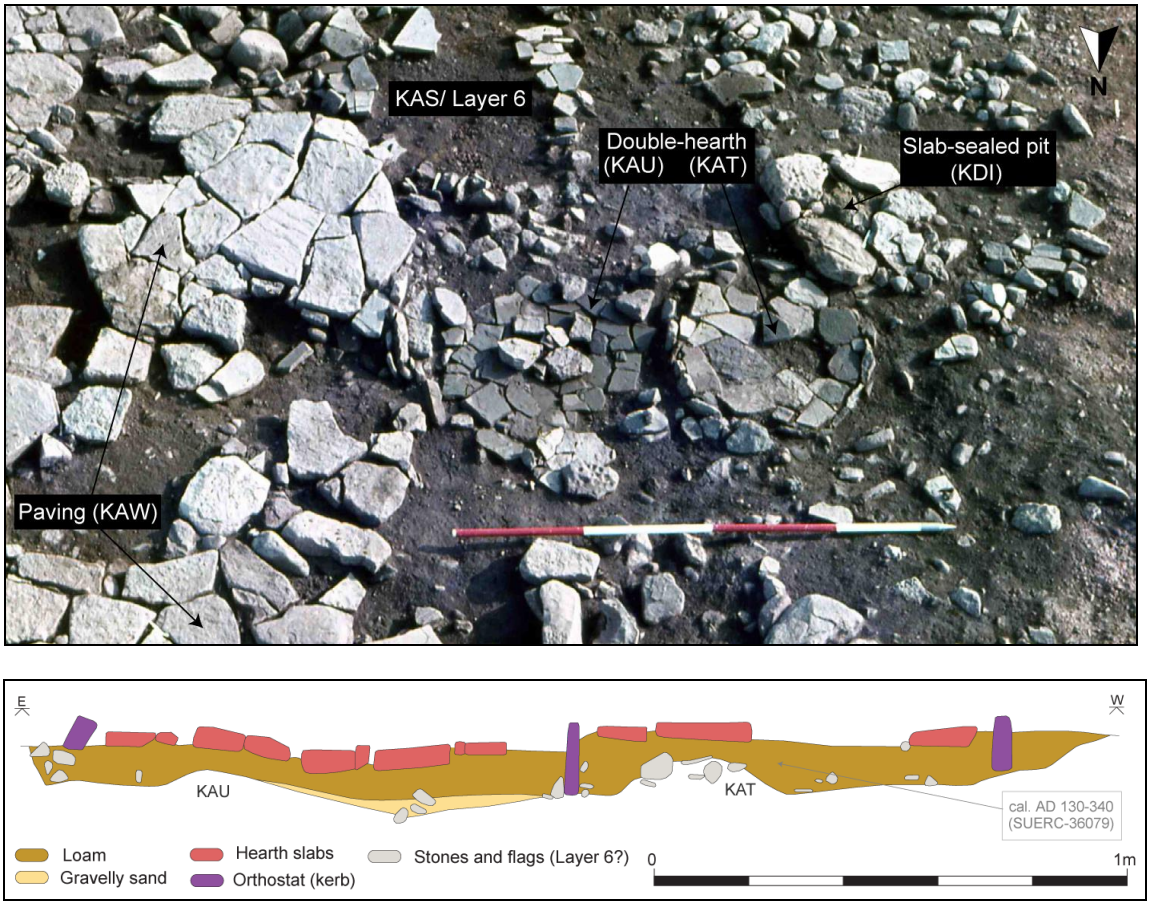


Fig. 4.7 Photograph and section of the double-hearth in House 1 (photograph: Broxmouth archive; section copyright The Broxmouth Project).

Pits

It is difficult to relate the remaining House 1 features stratigraphically to one another, or to the paved surface (KAW); several pits do, however, appear to be associated with House 1. One large, flag-lined pit (KCH; Fig. 4.8), located roughly centrally within the structure (Fig. 4.5), was respected by the paving, suggesting that it was in contemporary use with the House 1 floor. The pit was infilled with loam containing concentrations of shell and a single perforated antler handle (SF197; Fig. 4.8). Several slabs had slumped into the upper infill of this pit (Fig. 4.8), suggesting that, at some point during the occupation of House 1, the paved floor extended over this feature, after its abandonment.

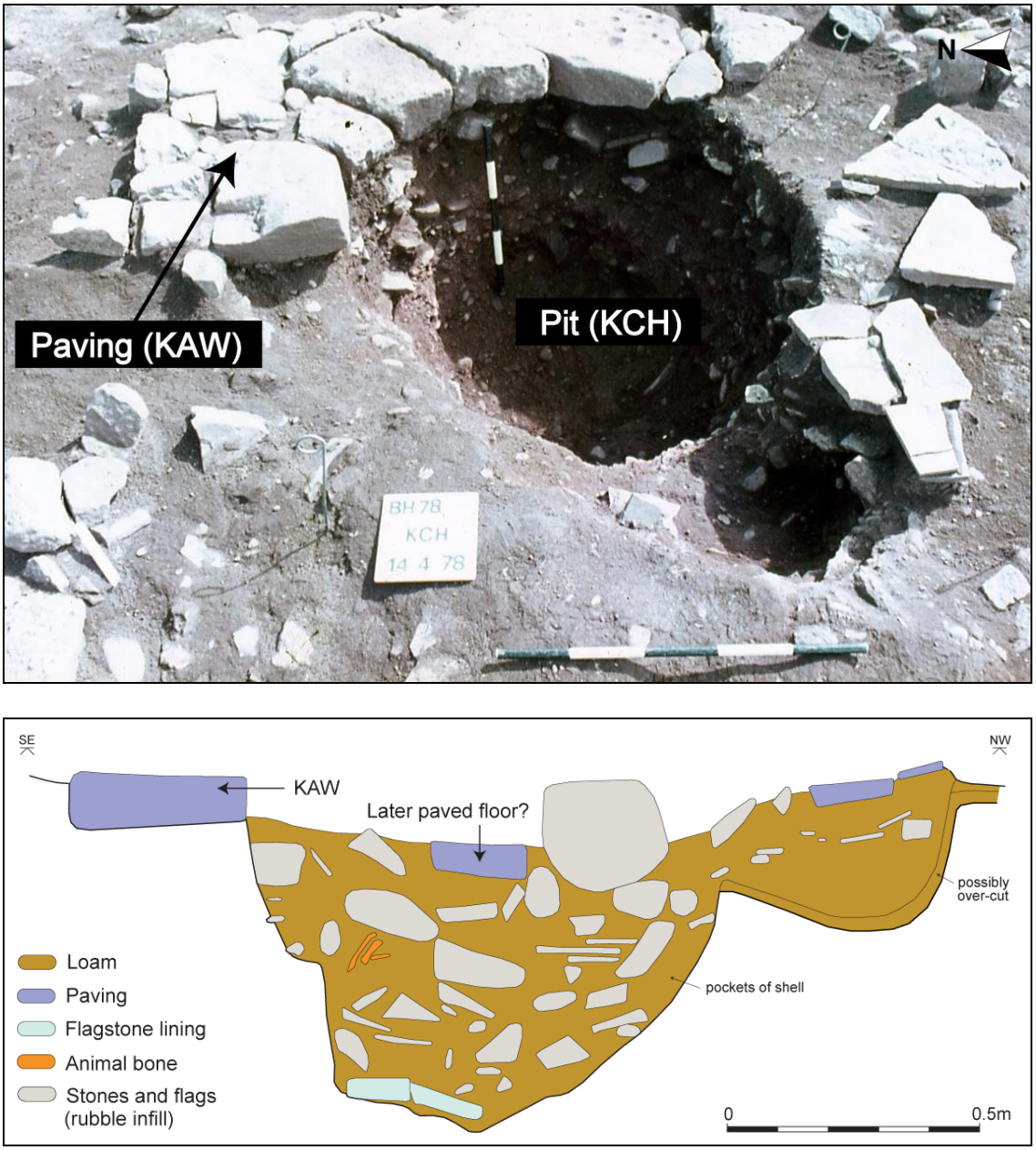


Fig. 4.8 Photograph and section of pit KCH, which is respected, and possibly later overlain, by the House 1 paved floor (photograph: Broxmouth archive; section: copyright The Broxmouth Project)

Several other pits (Fig. 4.5, 4.9) cluster in the south and east of House 1, though the complex stratigraphy, together with the absence of the paved floor in this area, makes the precise nature of their relationship with the roundhouse difficult to ascertain.

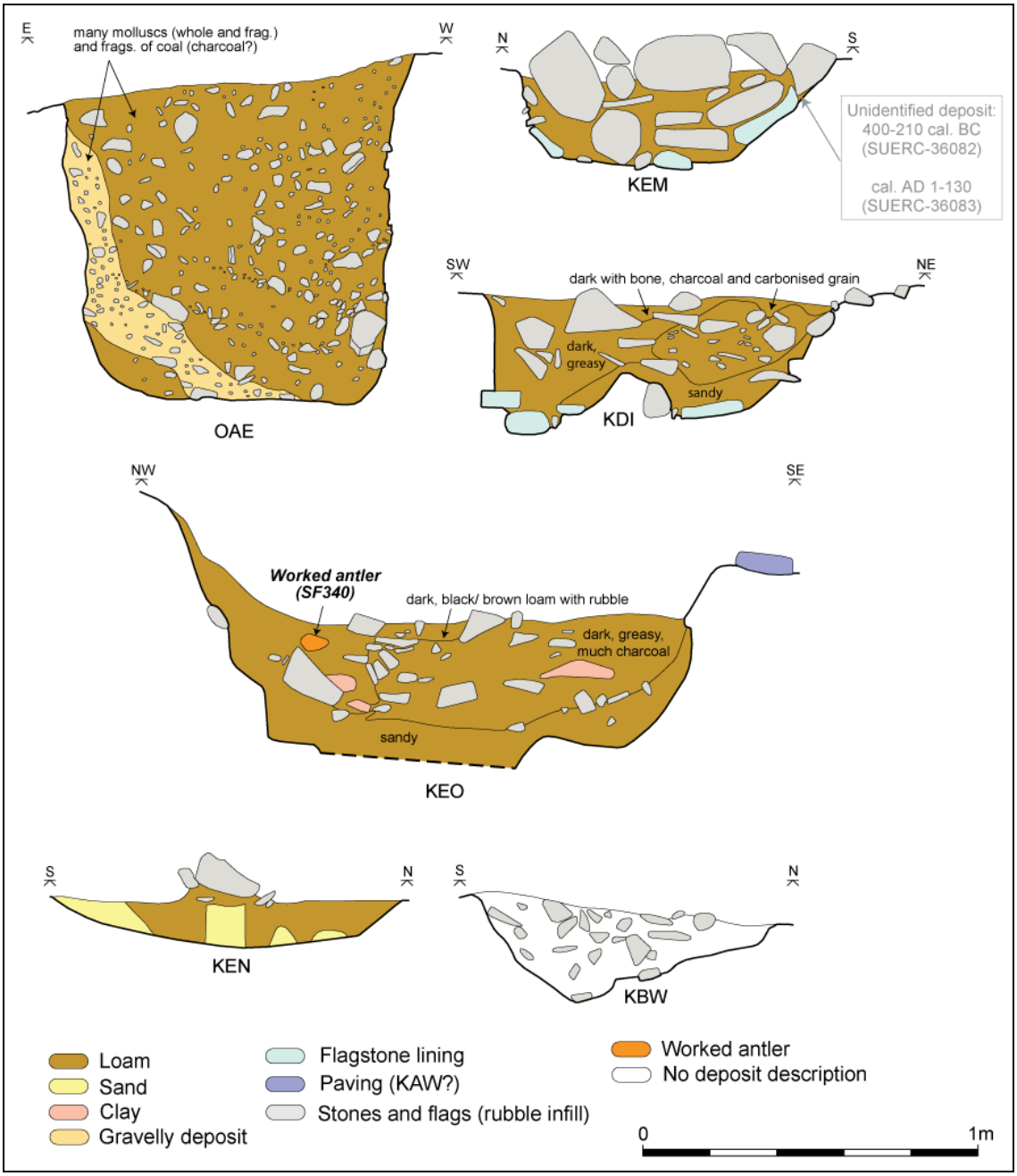


Fig. 4.9 Pits in the south and east of House 1 (image copyright The Broxmouth Project). The stepped profile of pit KEO shows its truncation of the Phase 1 palisade trench.

The most significant of these pits (KEM) contained a cache of broken Roman artefacts (recorded on-site as a ‘hoard’: KEC04; Table 4.2), which are likely to have been deposited in a bag or other perishable container. The ‘hoard’ contained three re-fitting sherds of Samian ware pottery (SF144) from a

Southern Gaulish Dragendorff type 18 or 18/ 31 vessel (AD 50-100 or AD 90-150 respectively), one fragment of which had apparently been trimmed down; five non-fitting fragments of glass bangle (SF624, SF625, SF626, SF627 and SF628) of late first to early second century AD date; and a single sherd of Roman prismatic glass bottle (SF1244), dating to the later first to early third centuries AD (Table 4.2; Fig. 4.10). It is possible that some of the items were curated prior to deposition. A well-used, cattle femur head whorl (SF302) was also recovered from this pit but appears not to have formed part of the 'hoard' (Table 4.2). Whilst the hoard appears to have been removed prior to recording *in situ*, resulting in some confusion in the archive over its exact location relative to the pit, it appears to have been deposited in the upper fill of this feature (Fig. 4.10). As such, it may represent a structured deposit associated with the closure of the pit. Two samples taken from pit KEM returned AMS dates of 400-210 cal. BC (SUERC-36082) and cal. AD 1-130 (SUERC-36083; Table 4.3), indicating a mixed derivation for the infill material, as is the case for the material (i.e. KAS) associated with House 1 more generally. The deposit of Roman artefacts suggests, however, that infilling of this feature took place in the early 2nd century AD.

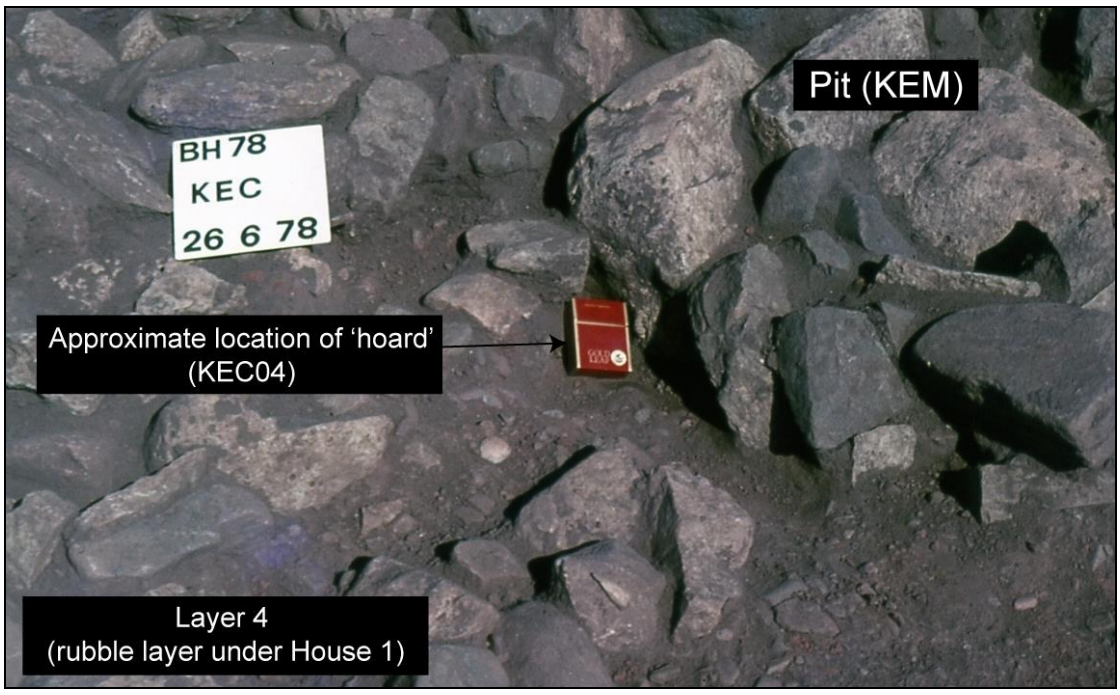


Fig. 4.10 Artefacts (top, not to scale) comprising the 'hoard' of Roman material associated with pit KEM; and (bottom) the approximate location of the 'hoard' (KEC04) in the upper fill of pit KEM (cigarette packet; photographs, top: The Broxmouth Project; bottom: Broxmouth archive).

Another significant item, a human cranial fragment (9; Table 4.1), was recorded to House 1, but in the absence of a more specific feature code, it is not possible to comment further on the context of this deposit. In Houses 4 and 7 however, human remains appear to have been associated with the foundation and abandonment of various structural stages (sections 4.4.4 and 4.7.5).

Frag.	Context	Element	Age	Sex	Pathology
9	House 1 (unknown)	Cranial vault fragment	Adult	?	N/A

Table 4.1 Human remains recovered from House 1 (context unknown; after Armit *et al* 2013)

4.1.2 ***Artefacts***

Feature type	Context		Artefact type	Find no.	Artefact description
Foundation	Layer 6		Worked stone	SF982	Mortar. Medium grained micaceous sandstone.
Hearth	KAT02		Worked stone	SF1043	Smoother: no wear facets but worn to high sheen. Quartzite.
Pit	KCH		Worked antler	SF197	Handle: broken side polished suggests continued use after breakage
	KEO	Upper (02)	Pottery	V88	1 base (flat, sloping wall): grass impressions (Type 2)
		Lower (03)	Worked bone	SF212	Spearhead (poss. deer tibia): blackened point, use-damage
			Worked antler	SF340	Part-worked (early stages): groups of cuts suggest marking-out
			Worked stone	SF1045	Smoother: polished from light use, dark staining, fire-cracked.
				SF1027	Smoother/ hone: used post-breakage. Fine grained micaceous ?carboniferous sandstone.
	KEM	Hoard (KEC04)	Samian pottery	SF144	2 frags. (footring, base) + 1 frag. (prob. same vessel): S. Gaulish Dr. 18/ shallow Dr. 18/31(shallow bowl/ platter), one sherd trimmed down
			Glass bangle	SF624	Type 3A: greenish white, rounded carination
				SF625	Type 3A: greyish white, rounded carination
				SF626	Variant: translucent yellowish green, internal 'folds', no carination, white marvered line, spaced unmarvered eyes (1 white/ blue spiral, 1 blue/ white spiral lines)
				SF627	Type 2: ice green, internal 'folds', no carination, single blue and white cord, unmarvered.
				SF628	Type 3A: white, slightly greenish, rounded carination
			Roman glass	SF1244	1 frag. blue/ green, shoulder of prismatic bottle. Later 1st-early 3rd centuries. Not modified.
		02	Worked bone	SF302	Whorl: perforated cattle femur head, use-polish, worn
	KBW		Worked antler	SF438	Scoop: remains of curved end, use polish on inner surface, dark stain on edge
Features assoc. with H1	KBB (slot)		Perforated shale	SF639	Pendant: split horizontally, well-finished, high lustre, use-scratches. Cannel or canneloid shale.
General H1 deposit (foundation, occupation, abandonment)	KAS		Pottery	V84	1 body (Type 2)
				V85	1 base (flat): sooted (Type 2)
				V86	1 rim (inverted): incompletely smoothed (Type 1)
				V92	1 rim (flattened): sooted? (Type 2)
				V93	1 rim (pinched concave edge) (Type 2)
			Worked antler	SF279	Nose-plug?: decorated with double knife-incised grooves
			Worked stone	SF1025	Hone (smoother?): polished, staining. Fine grained micaceous ?carboniferous sandstone. ?fired.
General H1 assoc.	N/A		Worked stone	SF1044	Smoother/ polisher: high sheen, staining along one edge with adhering residue. Quartzite.
			Iron	SF582	Bar: fine, rectangular-sectioned, apparently intact but may be a spall off a larger item.
Features poss. assoc. with House 1	P'hole	KAZ	Worked stone	SF1026	Hone (prob. smoother): irregular staining and light polish conc. towards one end on both faces.
		KBU	Perforated shale	SF658	Broken bangle roughout: edges natural, biconical perforation pecked to expand when snapped.
	Pit (KCE01)		Stone ball	SF730	Egg-shaped, pocked, red/ orange. Sandstone.

Table 4.2 Stratified artefacts recovered from House 1

4.1.3 ***Chronology***

Five samples were selected for AMS dating from House 1, limited by the relative lack of surviving stratigraphy within this structure.

Context		Lab code	Sample	Date (BP)	Date (cal., 95.4%)
Pre-House 1 (Phase 6)	Layer 4 (rubble)	SUERC-36077	Sheep/goat bone	2000±30	60 cal. BC- cal. AD 70
	Layer 3 (midden/ ash)	SUERC-36078	Cattle bone	1845±30	cal. AD 80-250
House 1	Hearth (KAT)	SUERC-36079	Cattle bone	1790±30	cal. AD 130-340
	KAS	SUERC-36080	Sheep/goat bone	2115±30	350-40 cal. BC
		SUERC-36081	Pig bone	2175±30	370-120 cal. BC
Assoc. with House 1	Pit (KEM04) (assoc. with hoard KEC04)	SUERC-36082	Cattle bone	2275±30	400-210 cal. BC
		SUERC-36083	Sheep/goat bone	1940±30	cal. AD 1-130

Table 4.3 AMS dates for House 1 and associated deposits (after Hamilton *et al* in press, 2013). Dates relating to early Phase 6 activity prior to the construction of House 1 (greyed out cells), have been included for comparison only.

With three AMS dates (two from KAS and one from pit KEM) indicating the redeposition of earlier material, only the date from the hearth (KAT), and the *terminus post quem* provided by Layers 3 and 4, provide useful dates for House 1. These suggest that House 1 represents one of the latest of the Phase 6 structures to be constructed and occupied. Assuming that pit KEM is associated with House 1, the early second century date for its infilling, provided on typological grounds by the 'hoard' of Roman artefacts (Fig. 4.10; Table 4.2), may also represent the date of abandonment for House 1, suggesting a relatively short use-life for this structure. AMS dates could not be modelled for House 1 specifically but were included in the modelling of the likely date and duration of the Phase 6 settlement more generally (Hamilton *et al* in press, 2013).

4.2 **House 2**

House 2 is located immediately east of House 1 (Fig. 4.11), with which it may have formed a conjoined 'figure-of-eight' structure (see section 4.1.1). The areas to the north and east of House 2 were deemed too badly plough truncated to warrant further excavation and as such it, along with House 1, represents the most northerly of the surviving structures.

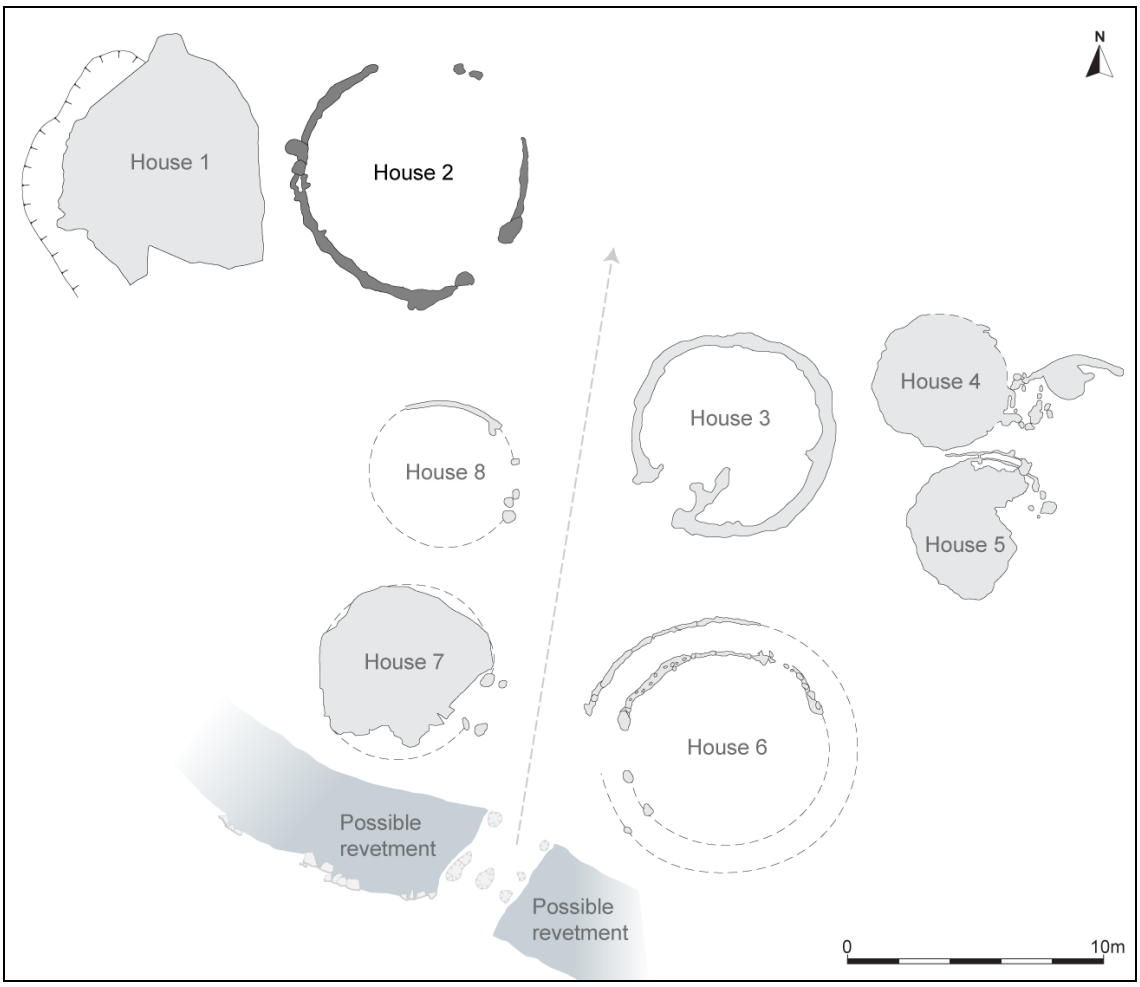


Fig. 4.11 Schematic plan showing the relative position of House 2 in the Phase 6 settlement at Broxmouth (image copyright The Broxmouth Project)

4.2.1 ***Stage 1: Timber roundhouse***

Wall

House 2 is defined by a single ring-groove (DFP), 11m in diameter (95m^2; Fig. 4.12). The ring-groove is rather wide and shallow (c. 0.25m deep) but could have held a stake, or wattle and daub, wall. Two cattle bones from the wall-slot returned AMS dates of 740-390 cal. BC (SUERC-30943) and cal. AD 70-240 (SUERC-30944; Table 4.6), the former presumably representing residual material.

The wall-slot does not appear to have been significantly rebuilt or re-aligned, except perhaps in the west (see below). Whilst the internal features undoubtedly represent a palimpsest and likely attest to multiple phases of internal remodelling, there is surprisingly little inter-cutting between them, suggesting a certain degree of contemporaneity; all respect the route between the south-east facing entrance and the centre of the structure (Fig. 4.12).

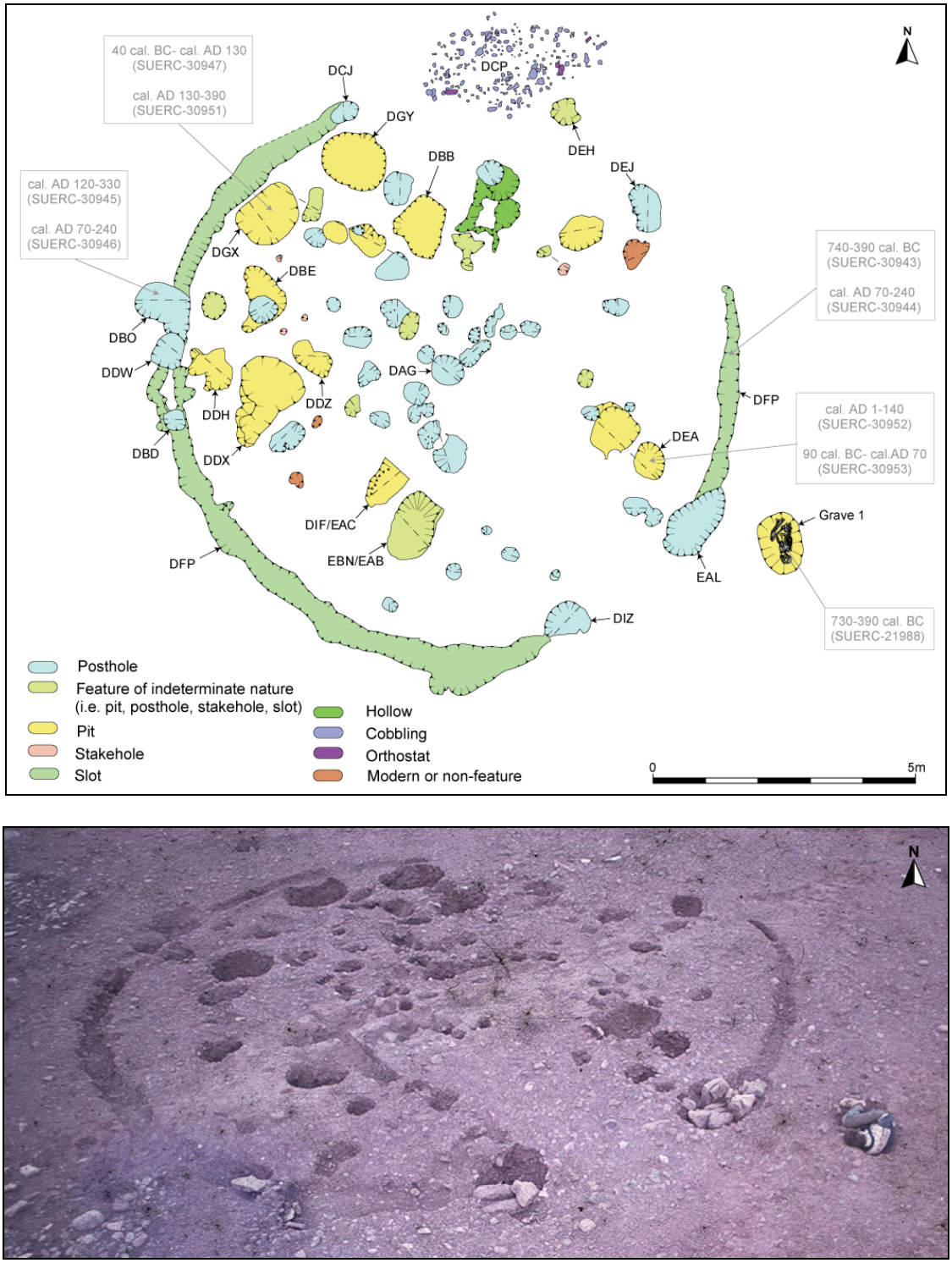


Fig. 4.12 House 2 (plan: copyright The Broxmouth Project; photograph: Broxmouth archive). The individual in the photograph takes the place of Grave 1 on the plan.

Entrance features

The wall-slot is punctuated several times around its circuit. The first of these measures 2m wide and represents the main, south-east facing entrance, flanked by large postholes. In the west part of the ring-groove, a short section of double-slot is flanked by two substantial postholes to the north (DBO, DDW), and a further posthole to the south (DBD). Cattle and sheep bone from one of these postholes (DBO) returned AMS dates of cal. AD 120-330 (SUERC-30945) and cal. AD 70-240 (SUERC-30946; Table 4.6). It is possible that these postholes represent a subsidiary entrance (c. 0.75m wide) into House 2, and may have allowed direct access into House 1, although the poor preservation of the latter in plan has eluded identification of a complementary east-facing entrance. Alternatively, the postholes and double-slot may have served a different function, perhaps similar to the *toll fhasgnaidh* ('winnowing holes') in Hebridean blackhouses (Holden 2004, 41), though these tend to be located diametrically opposite the main entrance to the structure, in order to aid through-flow of air, and this is not the case in House 2. The only two stratified metal artefacts recorded from House 2 were both recovered from postholes associated with these entrances (Table 4.5; Appendix B); the iron nail may well be structural, but the disc may potentially be a votive deposit.

A further break in the ring-groove occurs in the northern part of its circuit and measures 8.6m wide. Since, as with the other entrances, this break is flanked by postholes (Fig. 4.12), it cannot be interpreted merely as plough truncation of a continuous section of ring-groove; indeed, though no structures survive north of House 2, an area of cobbling (DCP) lies immediately to the north of this

breach, indicating that the Iron Age surface was preserved in this area. This break in the wall-slot is far too wide for a conventional roundhouse entrance, even one spanned by a set of double doors. It is therefore difficult to understand how a roof was supported at this point, and may suggest that House 2 was unroofed. Indeed, whilst the original excavators interpreted some of the postholes as forming a post-ring (site book), which would have removed the weight-bearing function from the outer wall, these features are too variable in size, spacing and morphology to have formed any coherent structural setting or viable roof support (Fig. 4.13). The centrally-placed post would not have served as an alternative to a post-ring, and is more likely to have supported the roof, if one existed, during construction (Pope 2008, 17).

It is possible that the break in the wall-slot was spanned by a section of non-earth-fast walling of wattle and daub, or of turf. This has been observed, more recently, in Welsh longhouses and Hebridean blackhouses, where they are known as *toll each* ('horse holes'; Harding 2009, 125; Holden 2004, 37). Periodic removal of this non-earth-fast wall facilitated the 'mucking out' of the byre end of the building, where animals were stalled; perhaps the cobbled area north of the proposed non-earth-fast wall in House 2 further aided this process. Thus House 2 may itself have, at least partly, served a byre function, for at least some of the year (i.e. the over-wintering of livestock).

A caveat to this interpretation however is the numerous negative features within the House 2 interior (Fig. 4.12). Whilst, as discussed previously, these features are likely to represent something of palimpsest, most appear to be roughly

contemporary. If these features were left open or uncovered, or are indicative of posts and other structural settings, they must surely have proved obstructive or hazardous to movement of animals around the building.

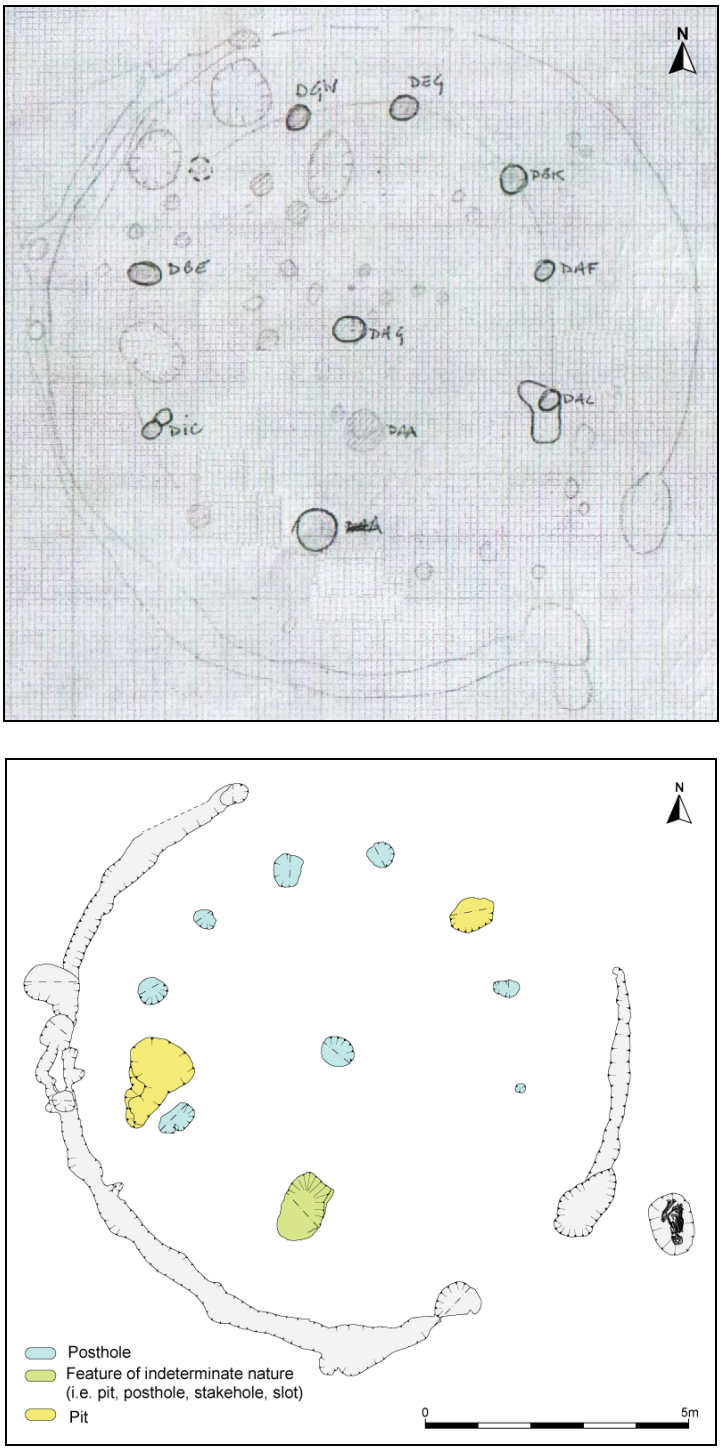


Fig. 4.13 Sketch (top) of the House 2 post-ring (with central post) in the site book (Broxmouth archive) and the same features transcribed onto plan (bottom; adapted from image copyright The Broxmouth Project); note their variable size, spacing and morphology.

Internal partitions

Small postholes flanking the entrance may have supported partitions controlling movement in and out of House 2 (Fig. 4.14, alignments 1 and 2). Furthermore, a group of features running north-east to south-west through the central post (DAG; Fig. 4.14, alignment 3), appear to bar direct access to the rear of the structure, and would have necessitated anti-clockwise movement around the interior. In fact, the majority of features tended to cluster in the north and west of the interior, leaving (with the exception of pit, which may well have been covered) a clear access route from the south-east entrance to the northern breach in the wall-slot and out onto the cobbled surface (Fig 4.14). The viability, and function, of such a routeway is unclear, but it may have been used to control the movement of livestock.

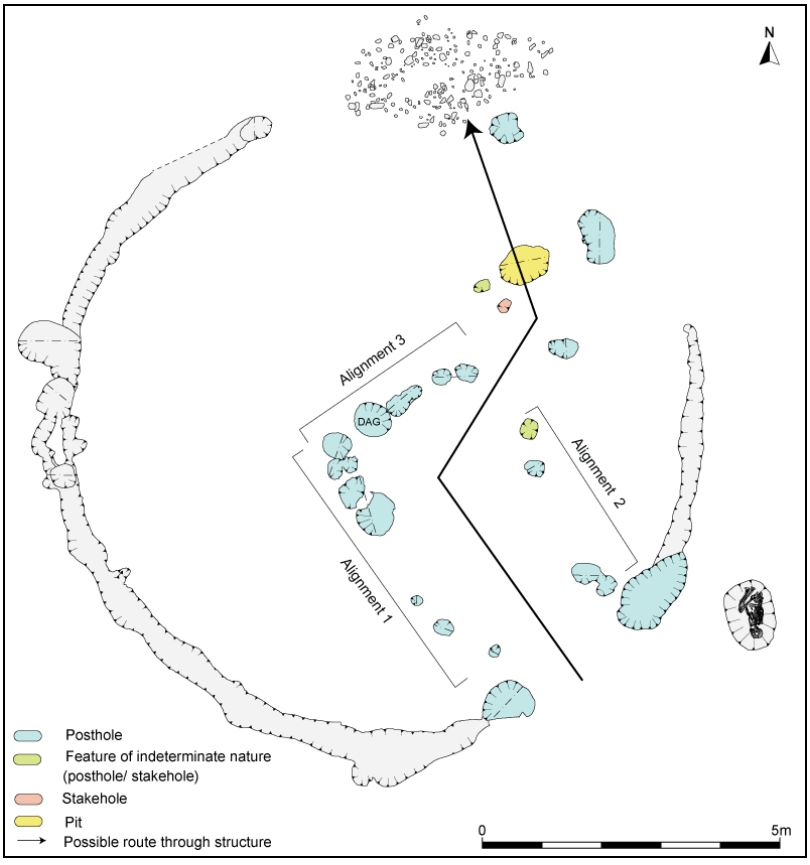


Fig. 4.14 Possible routeway through House 2 (adapted from image copyright The Broxmouth Project)

Internal features

No hearth was recorded in House 2. As with the break in the northern part of the wall-slot, the absence of this feature cannot be explained by plough truncation since the cobbled area to the north of the structure, and possible ephemeral traces of a paved surface (DDI[3], see below), in the north-west of the structure, survive. It is possible that a hearth may have existed at first floor level but, as previously discussed, the post-ring cited in the site books, which would presumably have supported such a floor, does not appear to represent a coherent structural setting.

Several large pits (DGY, DDX, DGX and DBB; Fig. 4.15), all measuring 1m or larger in diameter and up to 1m deep, cluster in the north and west of the interior; a similar position, relative to the main south-east orientated entrance, is occupied by the pits in the early stages of Houses 4 and 7 (Fig. 5.27, section 5.3.1). The north-western part of the circumferences of two of these pits follow, and respect, the line of the wall-slot (Fig. 4.16), indicating that they, and presumably the other pits too, were contemporary with House 2 and do not simply represent the fortuitous location of earlier or later features within the ring-groove. Indeed, AMS dates for pits DGX (40 cal. BC- cal. AD 130, SUERC-30947 and cal. AD 130-390, SUERC-30951) and DEA (cal. AD 1-140, SUERC-30952 and 100 cal. BC- cal. AD 70, SUERC-30953), are broadly contemporary with each other, and with the later date (cal. AD 70-240 (SUERC-30944) from the House 2 wall-slot (DFP; Table 4.6).

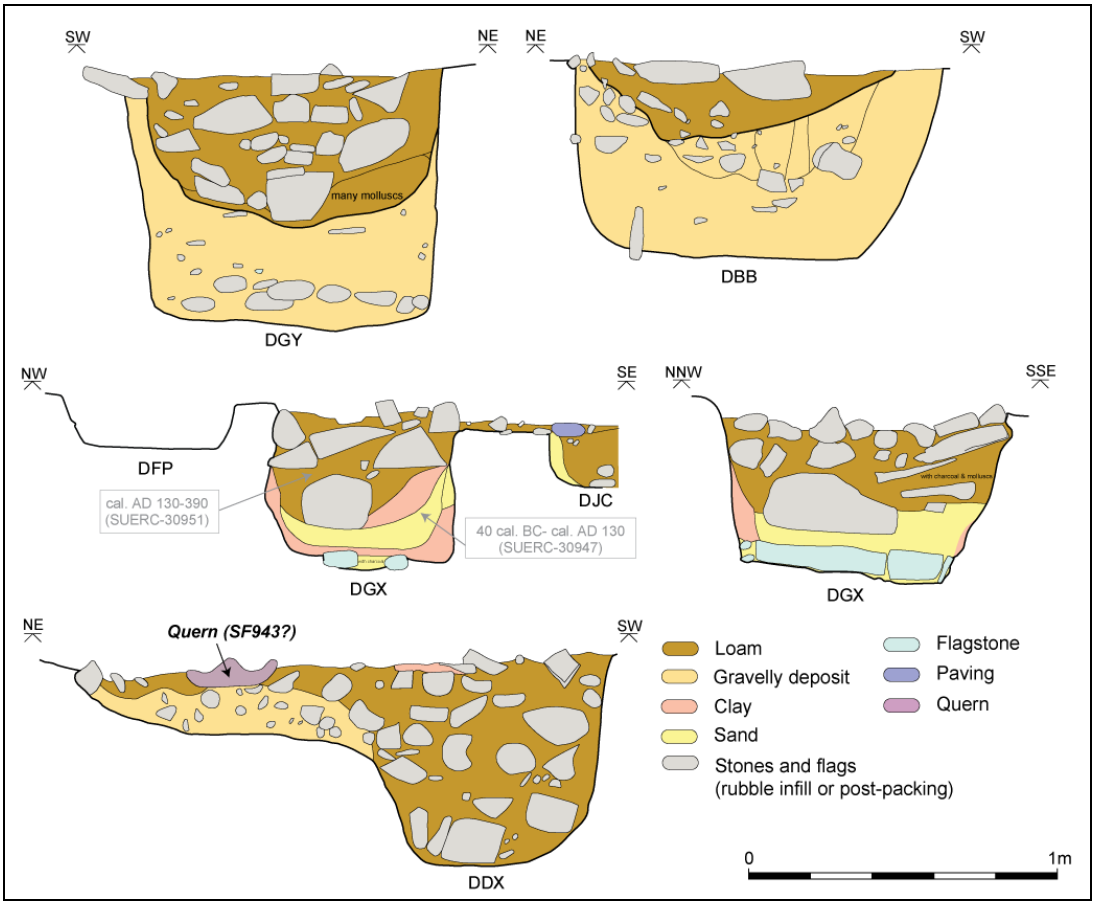


Fig. 4.15 Large pits in north and west of House 2 (image copyright The Broxmouth Project).

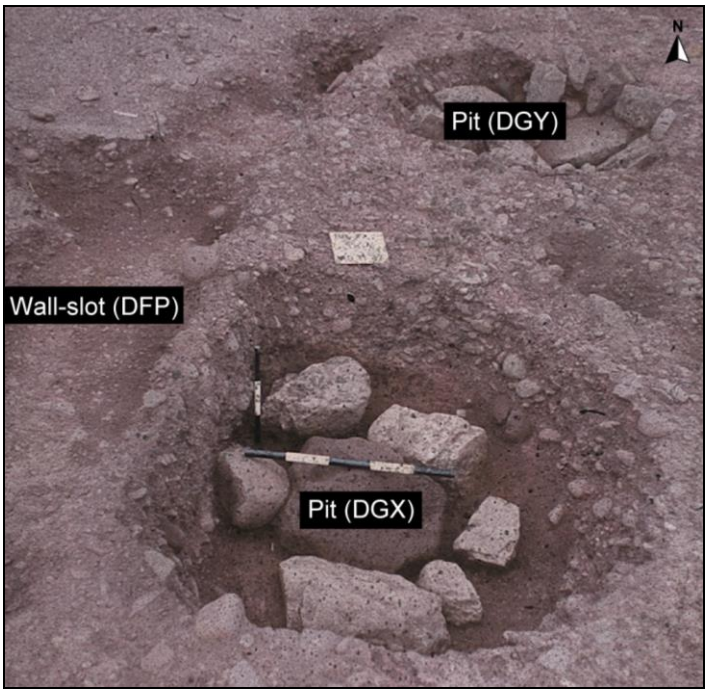


Fig. 4.16 Two of the large pits whose perimeter follow and respect the wall-line of House 2, indicating their contemporaneity with this structure (photograph: Broxmouth archive).

Pit DGX is flagstone and clay-lined, and it is possible that the other pits in the roundhouse were similarly furnished prior to abandonment and infilling. The clay lining may indicate that the pits were designed to resist ground moisture, though the clay is not as thick as that in the pits located outside the roundhouses (section 4.10.1), which may have been designed to be more thoroughly water-tight. All of the pits appear to have been re-cut on at least one occasion (Fig. 4.15), perhaps indicating a dynamic use, or one which required periodic maintenance of these features; whilst DGX was re-cut to the base, pits DGY and DBB appear to have been deliberately infilled with redeposited natural and re-cut as smaller features. Many of the pits are described as containing molluscs (site book; Fig. 4.15).

There is some indication of structured deposition having taken place within these pits; primarily, a burnt mortar (SF977) deposited face-down into the re-cut of pit DGY, presumably during infilling, and two conjoining fragments of a lower rotary quern stone (SF943) in the upper fill of pit DDX (Fig. 4.17; Table 4.5). One of these quern fragments is burnt, suggesting that the two pieces experienced differential post-breakage treatment prior to their re-uniting for contemporaneous deposition in this feature (McLaren in press, 2013).

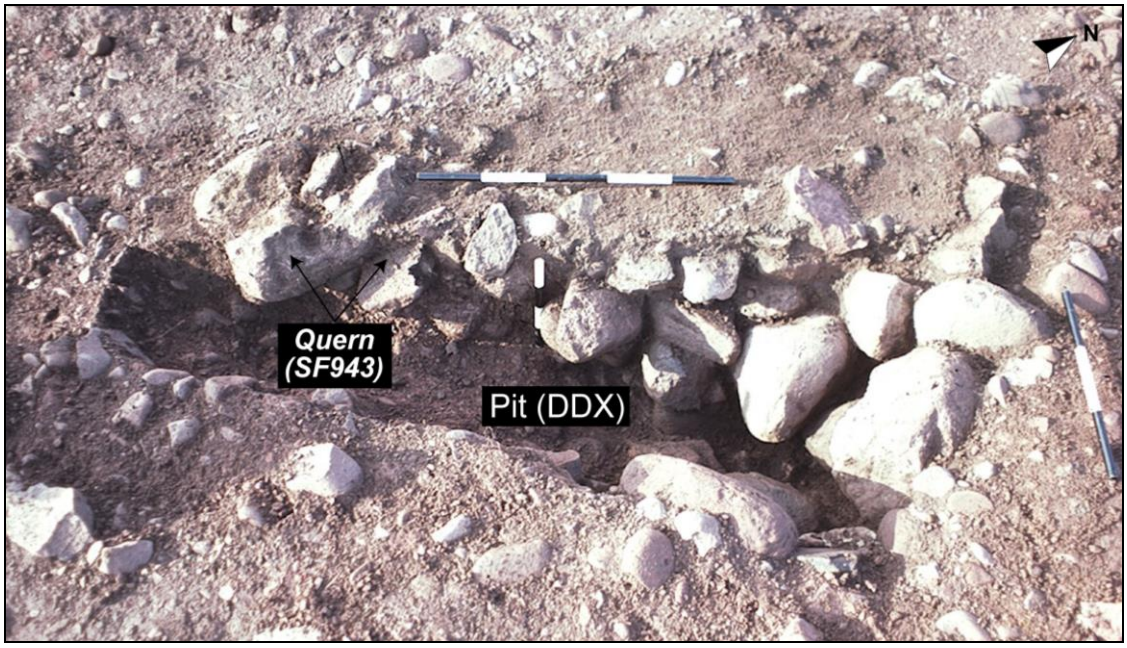


Fig. 4.17 Burnt mortar (SF977, top) and two *in situ* quern fragments (SF943, one burnt; bottom), deposited in the upper infill of pits DGY and DDX respectively (photographs: The Broxmouth Project; right: Broxmouth archive)

Several other large pits are located in different parts of the House 2 interior (Fig. 4.12). One of these (EBN/ EAB), in the south-west, was re-cut to take a substantial post, whilst another (DEA), in the south-east, yielded a cache of pottery (Table 4.5) and a substantial quantity of animal bone.

4.2.2 ***Possible later floor surfaces***

The original excavators (Hill 1995) believed that the large pits in the north-west of House 2 were cut from the level of an early gravel floor (DDI[4]) and sealed by a later paved surface (DDI[3]). Certainly, the Broxmouth archive (site book) makes note of areas of trampled gravel within House 2, particularly in the north-west, surrounding the pits. Whilst these deposits are not recorded in plan, they are suggested in sections and slides (Fig. 4.18). Indeed, it is possible that some of the flat slabs recorded in the uppermost levels of the infilled pits (Figs. 4.15 and 4.19) represent parts of this paved surface which have subsided into their fills. If this is the case, then, like Houses 4, 5 and 7, the pits must have been associated with pre-paved stages of House 2, going out of use with the paving of the roundhouse interior.

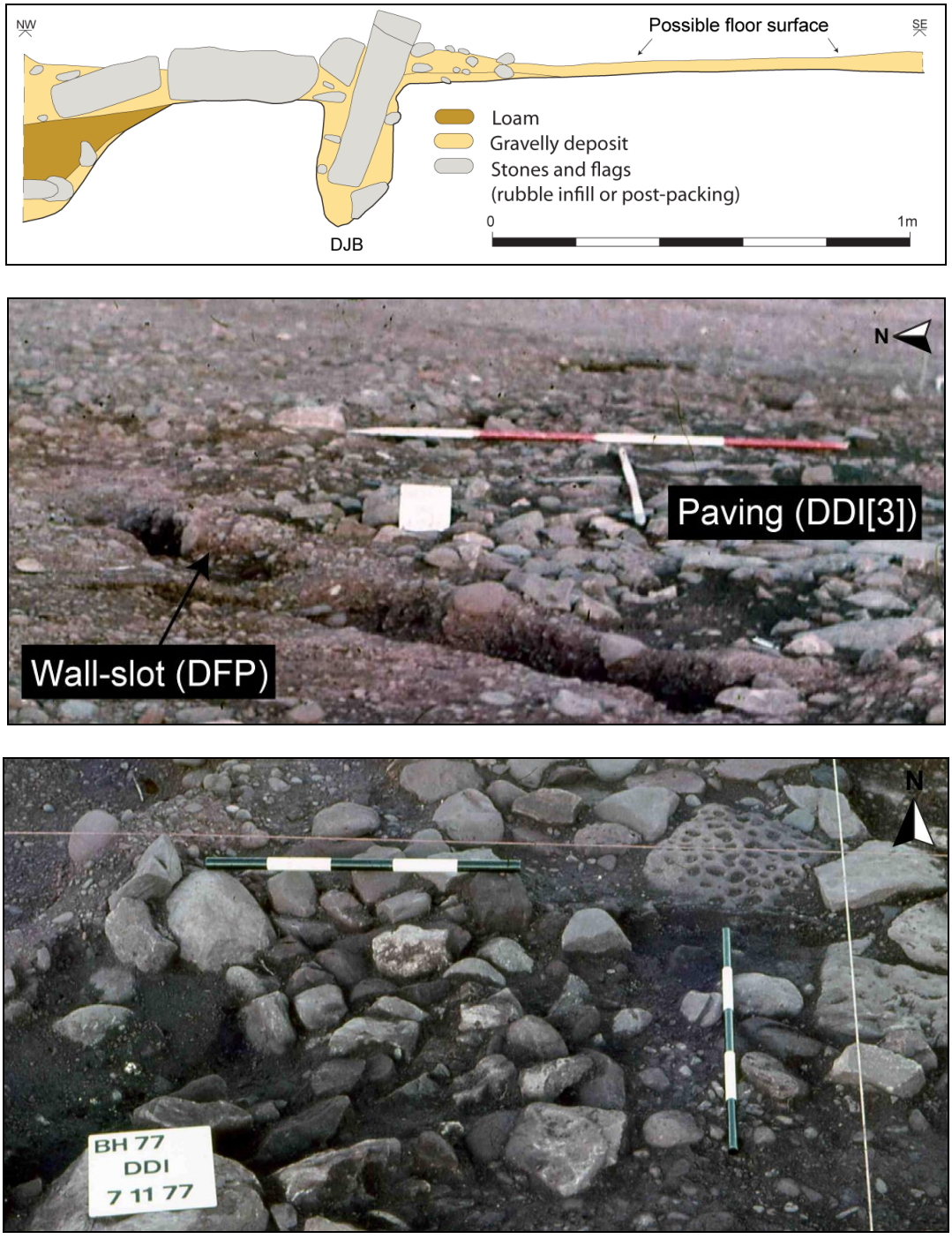


Fig. 4.18 Possible floor surfaces in the north-west of House 2: gravel (top; section copyright The Broxmouth Project) and paved (bottom; photographs: Broxmouth archive).

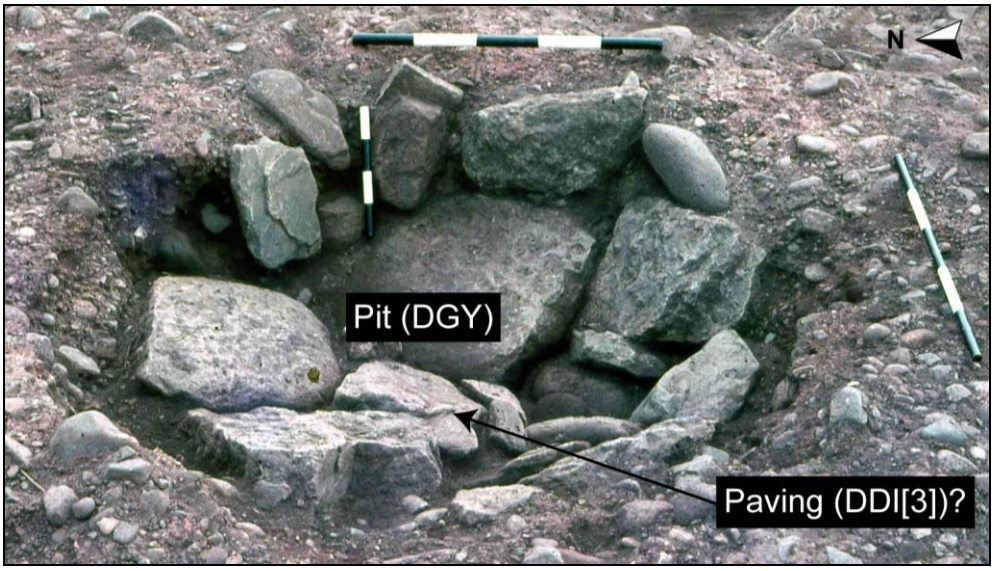


Fig. 4.19 Uppermost fill of pit DGY, possibly representing the subsided flags of a paved floor surface (DDI[3]) in the north-west of House 2 (photograph: Broxmouth archive).

Floor erosion

The original excavators (Hill 1995) suggested that a slightly dished profile inside the wall-slot indicated floor erosion in House 2. Whilst this is difficult to confirm without surviving archival evidence, a similar process is witnessed in House 3 (Fig. 4.23; section 4.3.1). Whilst this erosion may have been a factor in the laying of the putative gravel and paved floor surfaces, the degree of erosion is not as severe as that in other structures, particularly House 4. Despite the lack of inter-cutting between features, their sheer number suggests a long use-life for House 2, since the number of posts would have impeded movement around the interior if all were contemporary. Since both structures appear to have witnessed long use-lives, the different degrees of use-wear between Houses 2 and 4 may, therefore, be the result of different activities taking place within these structures, or different attitudes to cleaning out. What is notable however

is that, if House 2 housed animals, then a far greater degree of floor erosion, or a much better laid paved floor (as in Houses 4 and 7), would be expected.

4.2.3 ***Stage 3: Abandonment***

The latest activity in House 2 appears to be the deposition of a 'dark humic soil' which sealed all features and probably represents the terminal midden infill of the structure. Many artefacts were recovered from this deposit including a copper alloy zigzag bracelet (SF521; Fig. 5.36; Table 4.5) of possible late 3rd or 4th century AD (Armit and McKenzie in press, 2013); it is possible that this was deposited a considerable time after the abandonment o House 2.

Meanwhile, the ploughsoil above House 2 yielded the densest concentration of finds from the settlement interior. It also yielded a human foot bone (fragment 3; Table 4.4) which, though not AMS dated, probably also represents a disturbed deposit of Iron Age date, possibly originally having been deposited within House 2.

Frag.	Context description	Bone element	Age	Sex	Pathology
3	Ploughsoil over House 2	Right medial cuneiform	Adult	?	N/A

Table 4.4 Human remains recovered from ploughsoil over House 2 (after Armit *et al* 2013)

4.2.4. ***External features***

Features outside the Phase 6 roundhouses were not well recorded, but a crouched inhumation (Grave 1; Fig. 4.20) of a young woman (18-25 years old, with healed rib fractures) was located 1.5m east of the northern terminal of the main south-east facing entrance of House 2 (Fig. 4.12). Whilst their close proximity suggests a connection (the relative positions of the two mirroring the schematic models of Parker Pearson and Sharples 1999, Fig. 10c; Fig. 2.9, section 2.4), there is no stratigraphic link between them, and AMS dates suggest that the skeleton (5*40-385 cal. BC* at 95% probability; *505-390 cal. BC* at 68% probability; SUERC-21988; Hamilton *et al* in press, 2013) pre-dates House 2 (DFP; cal. AD 70-240, SUERC-30946, later date) by several centuries. This leaves several possibilities: that there is no formal relationship between the burial and House 2; that the burial was marked, perhaps by a cairn (now ploughed away) or was rediscovered through truncation of the settlement interior during Phase 6, and directly affected the siting and entrance orientation of House 2; or that the body was curated and buried during construction of House 2, perhaps as a foundation deposit. Given the close proximity between Grave 1 and House 2, and the large temporal difference in AMS dates, the second hypothesis may be the most likely.

Fig. 4.20 Grave 1, lying 1.5m east of the main, south-east entrance of House 2 (photograph: Broxmouth archive).

4.2.5 ***Artefacts***

Feature	Context		Artefact type	Find no.	Artefact description	
Entrance postholes	SW	EAL01	Iron	SF588	Nail	
	W	DBO		SF577	Disc	
Pits	DGX01		Worked bone	SF318	Roughout	
	DGY01		Worked stone	SF977	Mortar. Fine grained micaceous carboniferous sandstone.	
	DDX02		Quern (Rotary)	SF943	Lower (2 frags.): 1 burnt	
	Pit in SE (DEA)		Pottery	V98	1 body	
				V100	1 frag. (Type 2)	
				V101	3 frag.	
				V102	1 body: coil-constructed (Type 2)	
				V103	1 body (Type 2)	
				V104	1 body (Type 2)	same vessel?
				V105	1 rim (concave) (Type 2)	
	Pit in SE (DAL)		Worked bone	SF200	Poss. fine hammer/ burnisher	
Terminal infill	Sieved sample (infill?)		Copper alloy	SF521	Roman bracelet	

Table 4.5 Artefacts recovered from House 2

4.2.6 ***Chronology***

Eight AMS dates were obtained for House 2 (stage 1; Table 4.6), of which seven are thought to represent accurate date estimations, the other (740-390 cal. BC; SUERC-30943) likely deriving from residual material.

Context		Lab Code	Sample	Date (BP)	Date (cal., 95.4%)
Wall-slot (DFP)		SUERC-30943	Cattle bone	2405±30	740-390 cal. BC
		SUERC-30944	Cattle bone	1855±30	cal. AD 70-240
N posthole (DBO) of W entrance		SUERC-30945	Cattle bone	1810±30	cal. AD 120-330
		SUERC-30946	Sheep bone	1860±30	cal. AD 70-240
Pit (DGX), NW interior	02 (lower)	SUERC-30947	Sheep bone	1950±30	40 cal. BC- cal. AD 130
	01 (upper)	SUERC-30951	Pig bone	1765±35	cal. AD 130-390
Pit (DEA), SE of interior (assoc. with pottery cache)		SUERC-30952	Cattle bone	1930±35	cal. AD 1-140
		SUERC-30953	Sheep bone	2010±30	90 cal. BC- cal. AD 70

Table 4.6 AMS dates obtained for House 2 (all stage 1; after Hamilton *et al* in press, 2013).

AMS dates suggest that House 2 represents one of the longest surviving structures in the Phase 6 settlement, with modelled dates for construction of *45 cal. BC- cal. AD 20*, and abandonment of *cal. AD 140–195* (both at 68% probability; Hamilton *et al* in press, 2013). Certainly, the late 3rd or 4th century copper alloy zigzag bracelet (Armit and McKenzie in press, 2013) recovered from the terminal infill deposit of House 2 represents the latest of the artefacts recorded from Broxmouth, although it is possible that it was deposited significantly after the abandonment of House 2.

4.3 **House 3**

4.3.1 ***Stage 1: Timber roundhouse***

House 3 lies south-east of centre of the excavated settlement interior (Fig. 4.21).

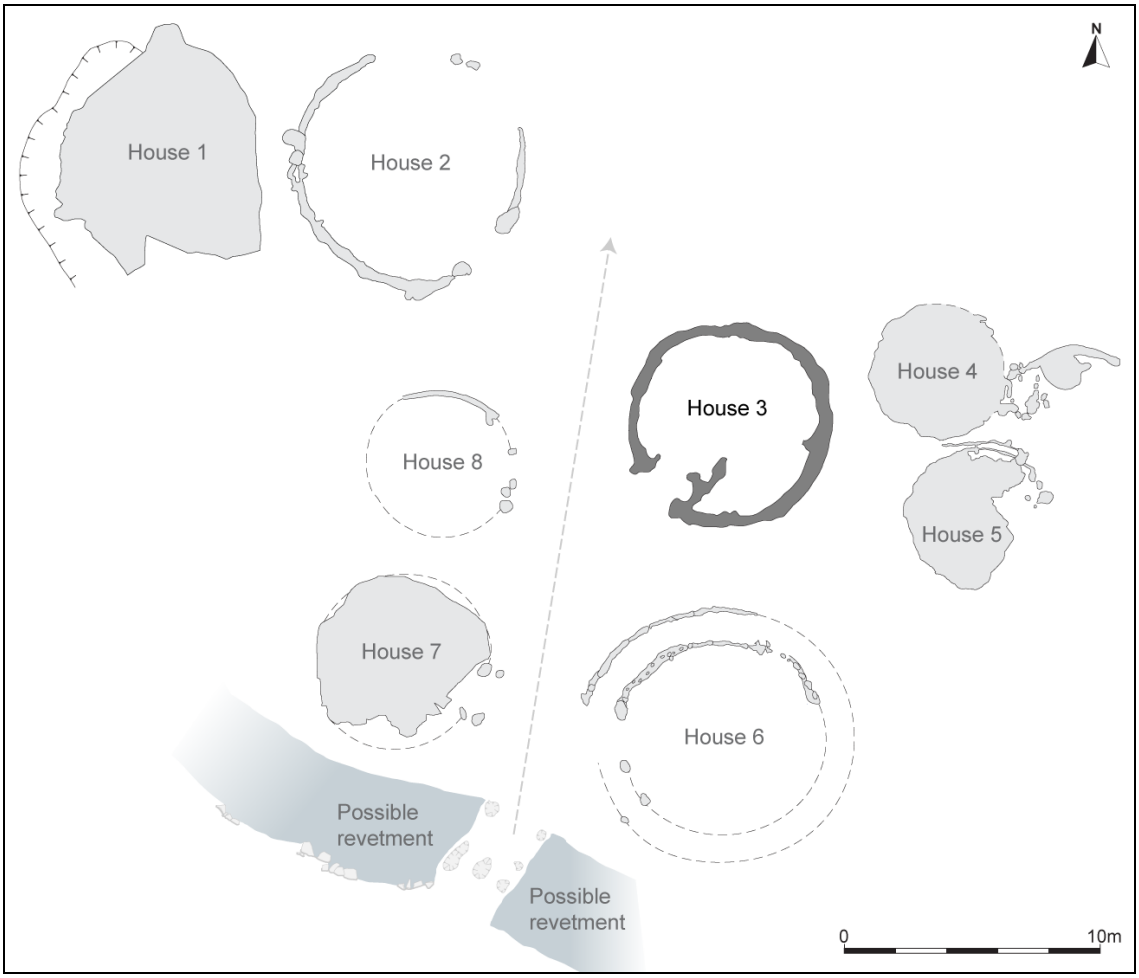


Fig. 4.21 Schematic plan showing the relative position of House 3 in the Phase 6 settlement at Broxmouth (image copyright The Broxmouth Project)

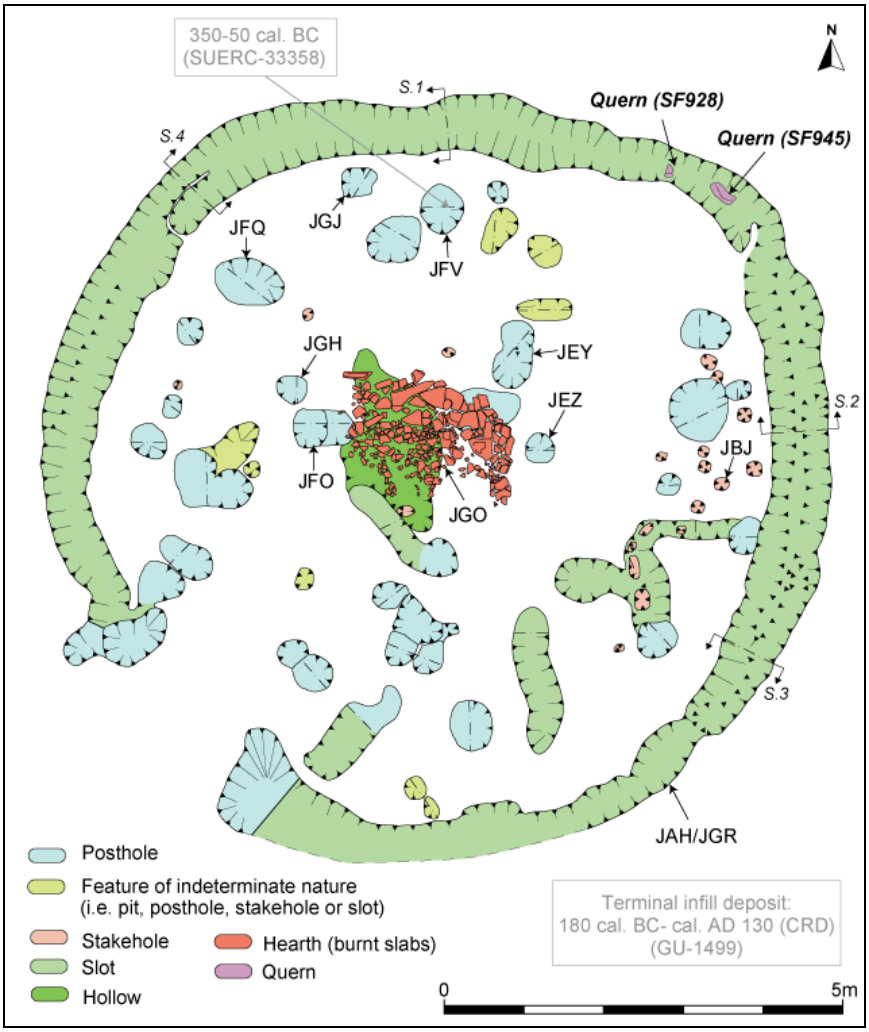
Wall

Like House 2, House 3 is demarcated by a ring-groove (up to 0.4m deep), measuring 8.7m in diameter (59.4m^2), but this feature has been re-cut and realigned several times, and is differentially represented by a single, two conjoined, or two isolated, slots (JAH/ JGR; Figs 4.23 and 4.24).

Recording of the various ring-grooves is somewhat confusing, and there appears to be no consistent stratigraphic relationship between them, suggesting that different sections of the wall were maintained and replaced on an *ad hoc* basis, without the need for a complete rebuild. Indeed, as in House 2, the area between the entrance and the centre of the structure appears to be fairly free of features, suggesting that, despite slight realignment of the wall, spatial organisation of the interior remained unchanged throughout the use-life of House 3.

Whilst the site archive makes attempts to associate the various phases of re-cut features within the House 3 interior with various re-cuts of the wall-slot, it has not been possible to confirm these relationships during reanalysis.

Small postholes or stakeholes, some 0.1-0.2m in diameter, were recorded in the north-west and south-east sectors of the wall-slot (Fig. 4.24); their intermittent nature suggests perhaps that they held supports for wattle panels, rather than representing a continuous stake wall. Five pieces of ‘baked clay’ (SF1108; Table 4.7) were also recovered from the south-west sector of the ring-groove, further attesting to the likely former presence of a wattle and daub wall.



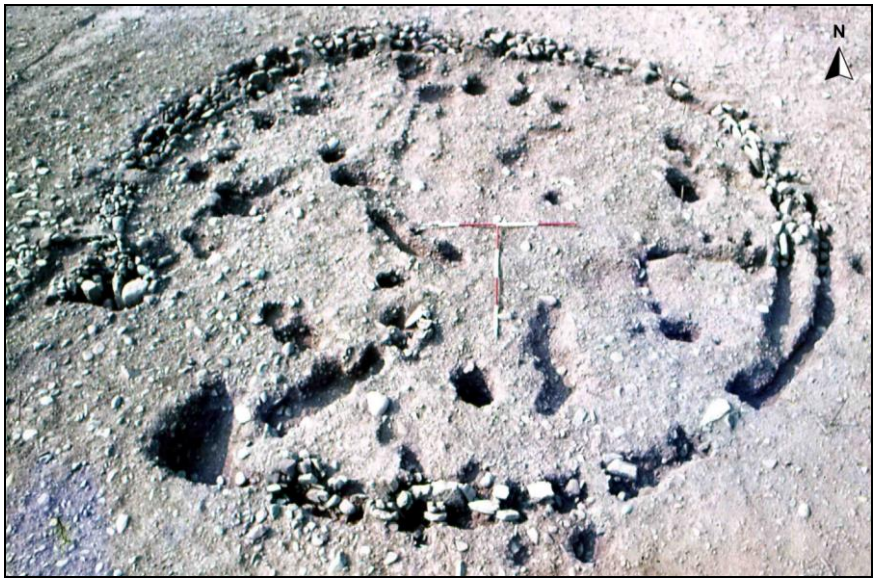


Fig. 4.22 Stage 1 features of House 3 (image copyright The Broxmouth Project; photograph: Broxmouth archive). House 3 is fully-excavated in the photograph, and thus the paved hearth is absent.

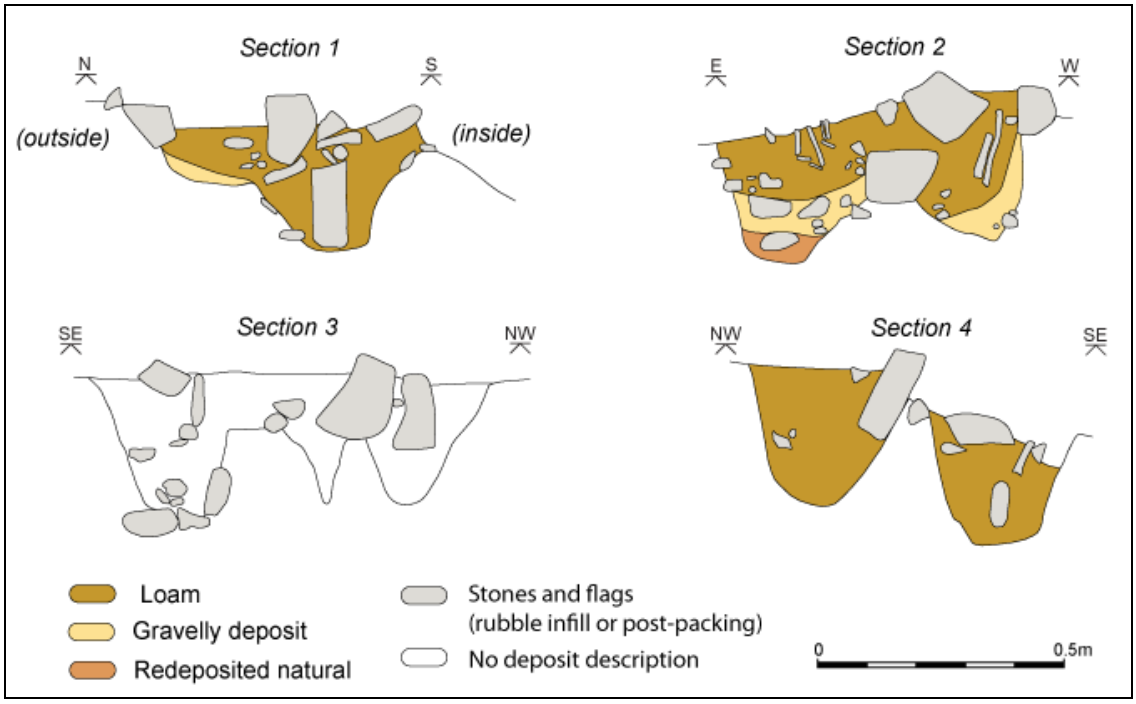


Fig. 4.23 The differential nature of the House 3 wall-slot in different parts of its circumference (image copyright The Broxmouth Project). Section numbers relate to their location around the ring-groove, as cited in Fig. 4.22. The scooped nature of the House 3 floor surface is shown in section 1 (top left).

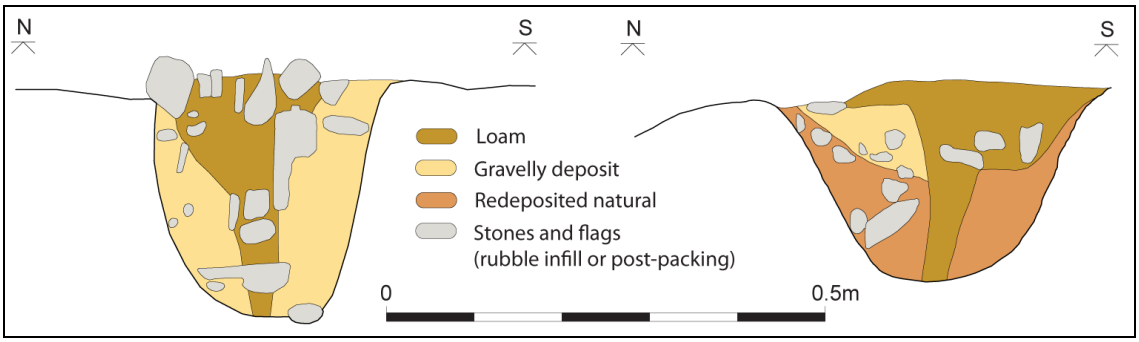


Fig. 4.24 Stakeholes within the south-east sector of the House 3 wall-slot (JAH/ JGR; image copyright The Broxmouth Project)

Two quern fragments, one saddle (SF928) and one rotary (SF945), were used as packing stones for the wall-slot in its north-east sector (Figs. 4.22 and 4.25), the latter severely damaged, possibly as a result of exposure to intense heat (McLaren in press, 2013). Whilst it is possible that this burning took place *in situ* in the wall-slot, the adjacent saddle quern (SF928) does not show evidence of heat exposure; it is thus more likely that the rotary quern fragment (SF945) was burnt prior to deposition, as was the fragment (SF943) in the infill of pit DDX in House 2 (Fig. 4.17; Table 4.5, sections 4.2.1 and 4.2.3).

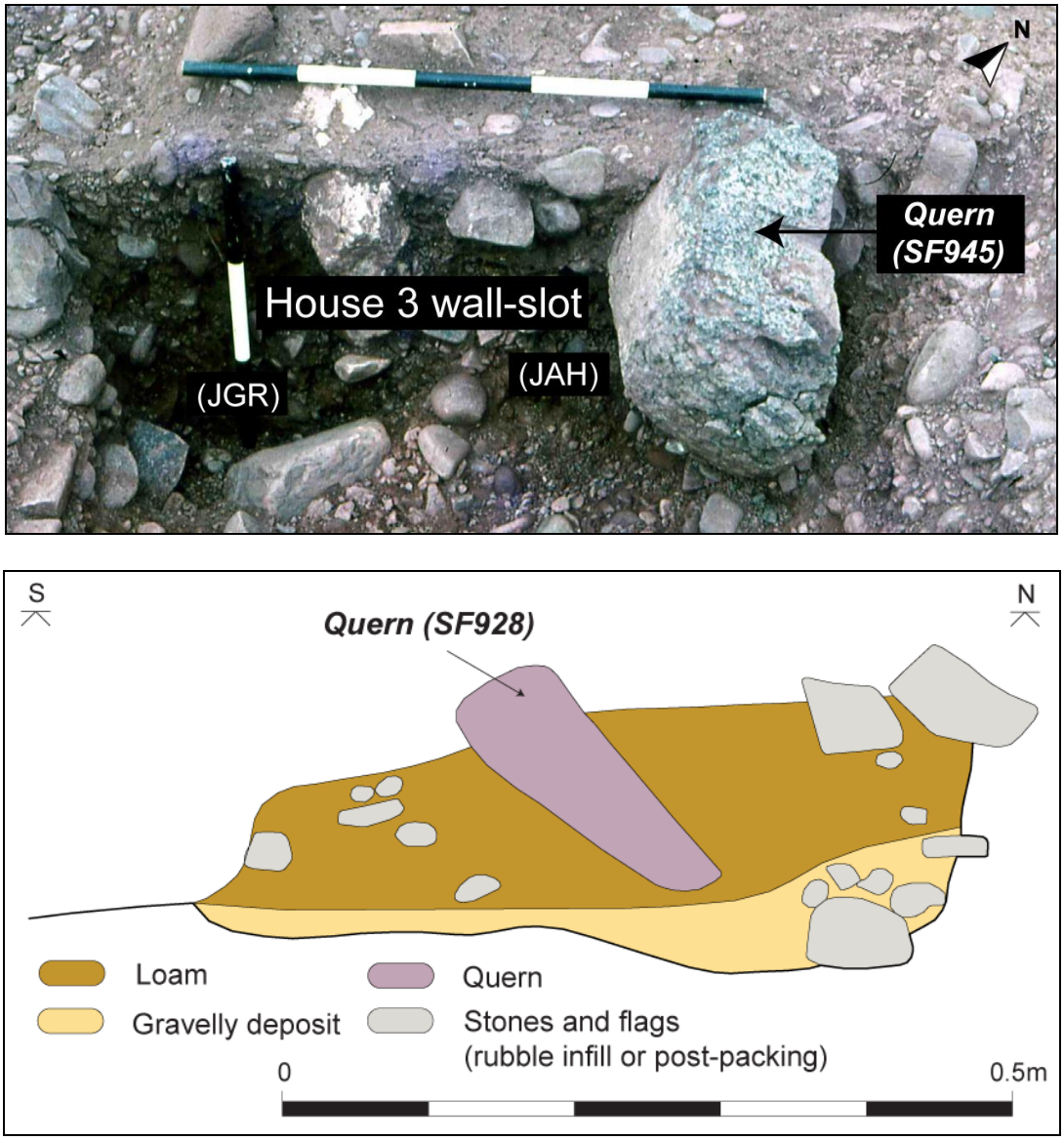


Fig. 4.25 Querns used as packing material in the House 3 wall-slot (photograph: Broxmouth archive; section: copyright The Broxmouth Project)

Entrance features

In contrast to House 2, and to the preferred orientation for many Iron Age roundhouses, the wall-slot of House 3 is punctuated by a south-west facing entrance, 1.5m wide. Rather than any cosmological explanation, it is probable that, as with many of the other Phase 6 roundhouses, this orientation was influenced by the desire for House 3 to front onto the main arterial roadway through the settlement. Interestingly, the quern fragments (SF828 and SF945) used as packing stones in the wall-slot were located directly opposite the entrance of House 3, mirroring the position of the orthostats in the stage 1 and 4 walls of House 4 (e.g. Figs. 4.46 and 4.47, section 4.4.4).

Slots, and linear arrangements of posts (Fig. 4.27, alignments 1 and 2), either side of the entrance, may have held screens of wattle, textile or hide, and appear to have formed an internal aisled structure similar to that proposed for House 2; this would have controlled access into the interior and directed movement towards the centre. As with House 2, however, direct access to the centre of the structure, and on this occasion, the hearth, appears to have been blocked by a north-west/ south-east partition. Since draughts are likely to have been minimised by the presence of a timber, cloth or hide door across the main entrance, the ‘fire-screen’ does not appear to have been a practical necessity, and may therefore represent a desire to visually screen-off the hearth from visitors, and to control movement around the building. Since the postholes flanking the entrance passage appear to have been re-cut and realigned on several occasions, this particular organisation of internal space may have been a long-lasting one.

Internal features and partitions

House 3 contains many negative features (Fig. 4.22), some of which the original excavators interpreted as a post-ring (site book; Fig. 4.26). However, when planned, the 'post-ring' sits off-centre and is positioned too close to the outer wall (less than 0.5m at several points and intersecting with it in the east), to have functioned effectively as a roof support (Fig. 4.26).

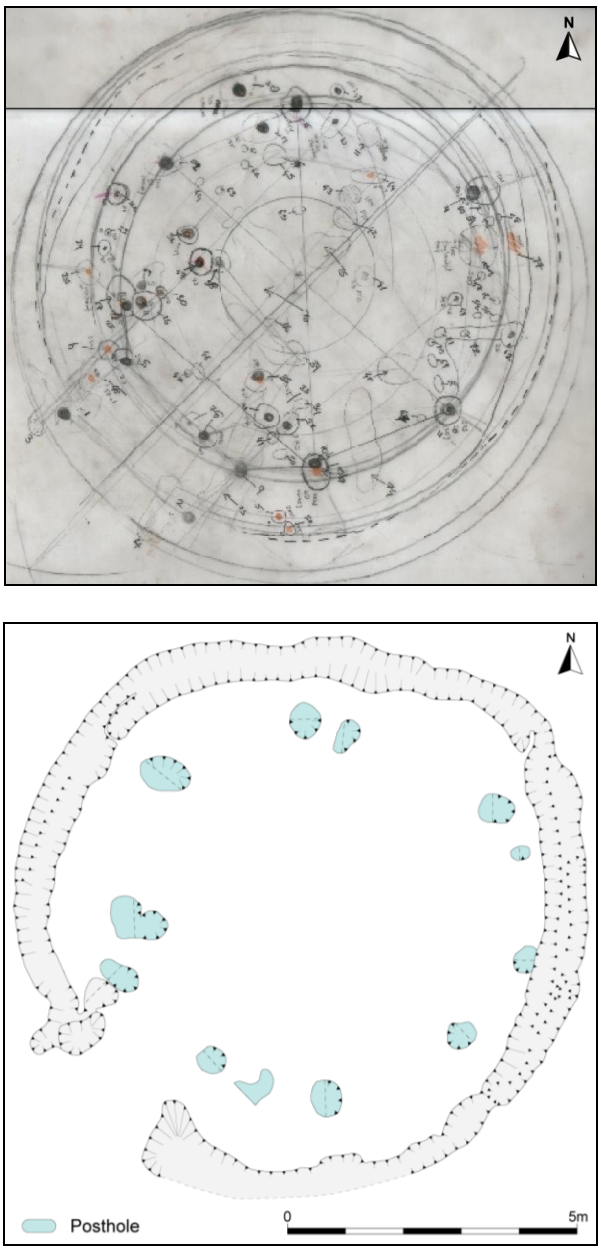


Fig. 4.26 Post-excavation sketch (Broxmouth archive) showing the post-ring, and its transcription onto plan (image copyright The Broxmouth Project), showing an asymmetric setting which intersects the wall-slot in the east of its circuit.

The differential depth and positioning of the posts perhaps suggests that they related to other forms of internal furniture; indeed, shallow slots elsewhere within the structure can more confidently be interpreted as representing internal partitions. Slots flanking the entrance (Fig. 4.27, alignments 1 and 2), and an L-shaped partition to the right, looking in (Fig. 4.27, alignment 3), suggest radial rather than annual division of space, with a series of small cells perhaps being used for storage, sleeping or other activities which required a degree of privacy. Given the substantial nature of the postholes flanking the entrance, it is possible that they also supported a partial upper floor or storage area over the doorway.

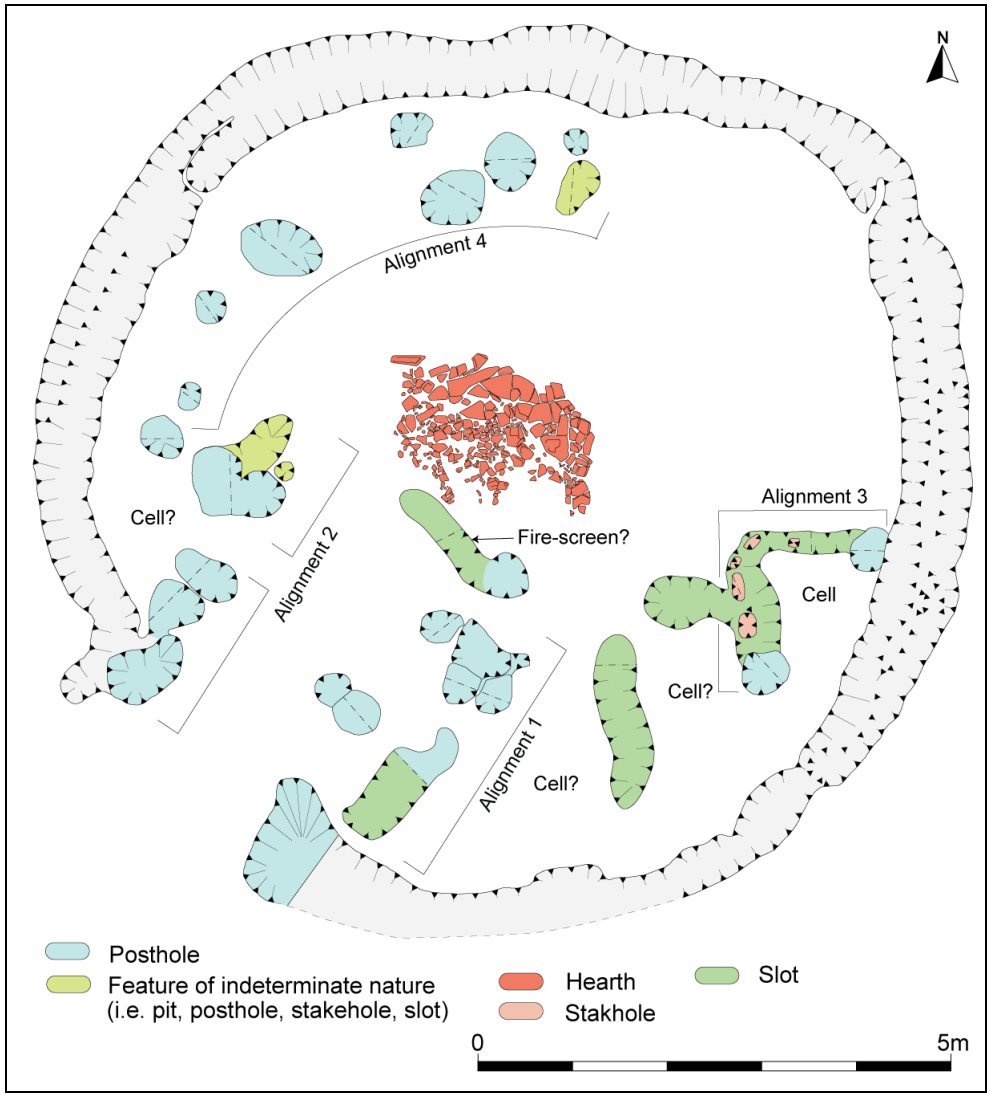


Fig. 4.27 Proposed internal partitions (slots) and posthole alignments in House 3 (image copyright The Broxmouth Project)

Meanwhile, postholes in the north-west of the structure (Fig. 4.27, alignment 4), were particularly substantial, with timbers in excess of 0.25m in diameter. These posts may have supported a raised storage area or mezzanine (perhaps for sleeping), which promoted both annular and radial division of space (Fig. 4.118). Whilst artefacts recovered from the House 3 interior are few, a bone point (SF221) and a stone ball (SF756) were recorded to posthole JGJ (Table 4.7), and may represent deliberate deposits. An AMS date of 350-50 cal. BC (SUERC-33358) was obtained from a horse tooth recovered from one of the large postholes (JFV) in the north of House 3 (Table 4.8).

The central hearth is fairly large, measuring roughly 2m long x 1m wide (Fig. 4.22), and survives as an irregular spread of burnt stones ranging in size from substantial slabs, mainly in the north and east, to small cobbles. It is surrounded by several postholes (JFO, JGH, JEZ) and a possible post-pad (JEY), which may have supported hearth furniture (e.g. for the hanging of cooking vessels over the fire).

The hearth stones appear to overlie a hollowed scoop filled with a gritty deposit and some charcoal (Fig. 4.28), which could represent an earlier hearth and/ or bedding material for the hearth slabs. The hearth slabs themselves appear to be slightly elevated from the surrounding floor, and may indicate erosion of the surrounding surface through use-wear and cleaning. Intriguingly, House 3 is entirely void of the large pits found in many of the other Phase 6 roundhouses.

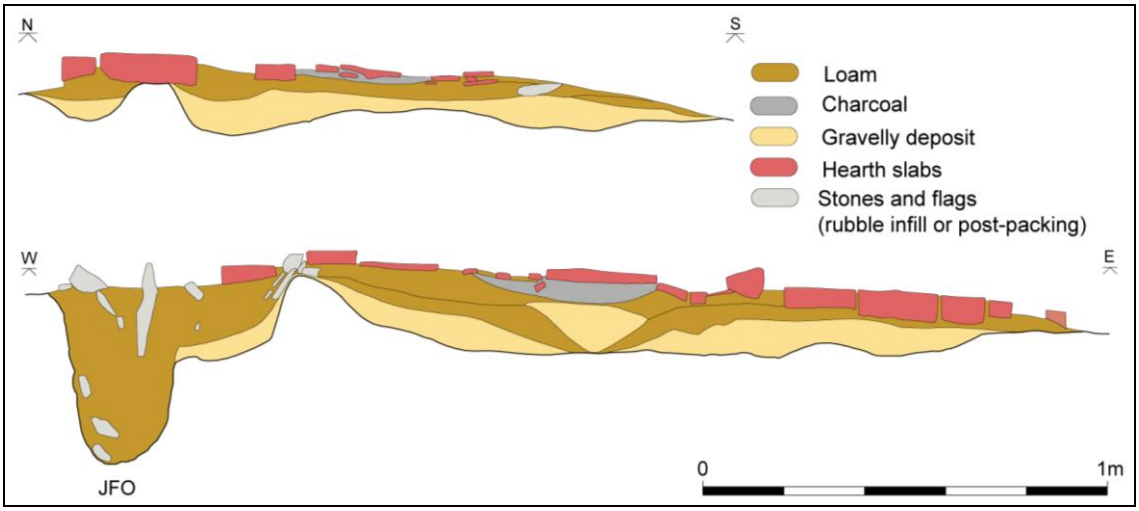


Fig. 4.28 The central hearth, and an adjacent posthole which may have supported associated furniture (image copyright The Broxmouth Project).

4.3.2 ***Stage 2: Possible later floor surface***

There are tentative indications that, as in House 2, a paved or cobbled surface overlay some of the negative features in the north-west of House 3 (Fig. 4.29). It is possible that this represents the partial remains of a once more extensive floor surface, although since the central hearth is extant, perhaps more of this surface would be expected to have survived. Given the similar position of the, likewise tentatively recorded, paved and gravel floor surfaces in House 2, it is possible that they represent only partial coverings against erosion in those parts of the structure which were most intensively, and consistently, used; indeed, the paving may have survived here because the lower, more heavily eroded, floor level protected it from the plough. Two, non-joining, fragments of a quern (SF960a and b) were incorporated into this surface, the former sealing one of the substantial postholes (JFQ) in the north-west and thus possibly representing a structured closure deposit for this feature; a quern (SF940) similarly seals the post-pipe of posthole HJO, north of House 8 (Fig. 4.112, section 4.10.2).

Fig. 4.29 Possible stage 2 floor surface (image copyright The Broxmouth Project)

4.3.3 ***Stage 3: Abandonment***

Alternatively, this stony material may represent the lowermost terminal infill of House 3; certainly, it is associated with considerable quantities of shell and bone which may represent midden elements of the infill. If this is the case, the quern fragments may represent structured abandonment deposits for House 3 more generally. A conventional radiocarbon date of 180 cal. BC- cal. AD 130 (GU-1499) was returned for this infill deposit, as part of the original dating programme (Table 4.8).

4.3.4 ***Artefacts***

Feature	Context		Artefact type	Find no.	Artefact description
Wall-slot	JAH	02	Worked bone	SF177	Unfinished needle/ pin
		01 (NE)	Quern (Saddle)	SF928	Lower (complete). Quartz-dolerite.
			Quern (Rotary)	SF945	Lower (frag.). Quartz-dolerite.
		01 (SW)	Stone ball	SF724	Oval. Sandstone.
		SW	Baked clay/daub	SF1108	5 frags.
Internal features	S'hole	JBJ	Pottery	V109	1 body (Type 2)
	P'hole	JGJ02	Worked bone	SF221	Shaft point
		JGJ	Stone ball	SF756	Sphercial. Sandstone.
Paved surface?	N of hearth		Quern (Rotary)	SF960b	Upper (c. 90%, 2 frags.): limpet scarred; secondary use. Fine-grained carboniferous sandstone.
	Seals p'hole JFQ			SF960a	
Terminal infill?	N/A		Pottery	V110	1 base (flat), 1 frag. (sloping wall): grass impressions
			Worked bone	SF216	Spearhead/ ferrule
				SF266	Splinter point

Table 4.7 Artefacts recovered from House 3. 'Boar's teeth' were also recorded from the wall-slot (site book), but are missing from the faunal assemblage.

4.3.5 ***Chronology***

Inadequate recording of faunal bone resulted in only a single AMS date (350-50 cal. BC, SUERC-33358) for House 3, in addition to a conventional radiocarbon date (180 cal. BC- cal. AD 130, GU-1499) from the terminal infill (Table 4.8). Nevertheless, maintenance of the wall-slot, re-cutting of the north-western postholes, and the dished floor, suggest a relatively long use-life for House 3, despite few inter-cutting features. AMS dates could not be modelled for House 3 specifically but were included in the modelling of the likely date and duration of the Phase 6 settlement more generally (Hamilton *et al* in press, 2013).

Stage	Context	Lab Code	Sample	Date (BP)	Date (cal., 95.4%)
1	P'hole (JFV) (N interior)	SUERC-33358	Horse tooth	2135±30	350-50 cal. BC
3	Terminal infill	GU-1499	-	2010±60	180 cal. BC-cal. AD 130

Table 4.8 AMS, and conventional radiocarbon (blue shading), dates for House 3 (after Hamilton *et al* in press, 2013).

4.4 **House 4**

House 4 is located in the east of the excavated interior, directly north of House 5 (Figs. 4.30 and 4.31); areas north and east of these structures were too severely plough truncated for full excavation.

House 4 is the best preserved of the stone-walled roundhouses due to its deeply-scooped stance, measuring up to 1m deep (perhaps 1.5m deep prior to plough truncation), and its predominantly stone fabric. This structure underwent five identifiable stages of major modification, in which the addition of concentric stone walls significantly reduced the floor area to less than half of its original footprint.

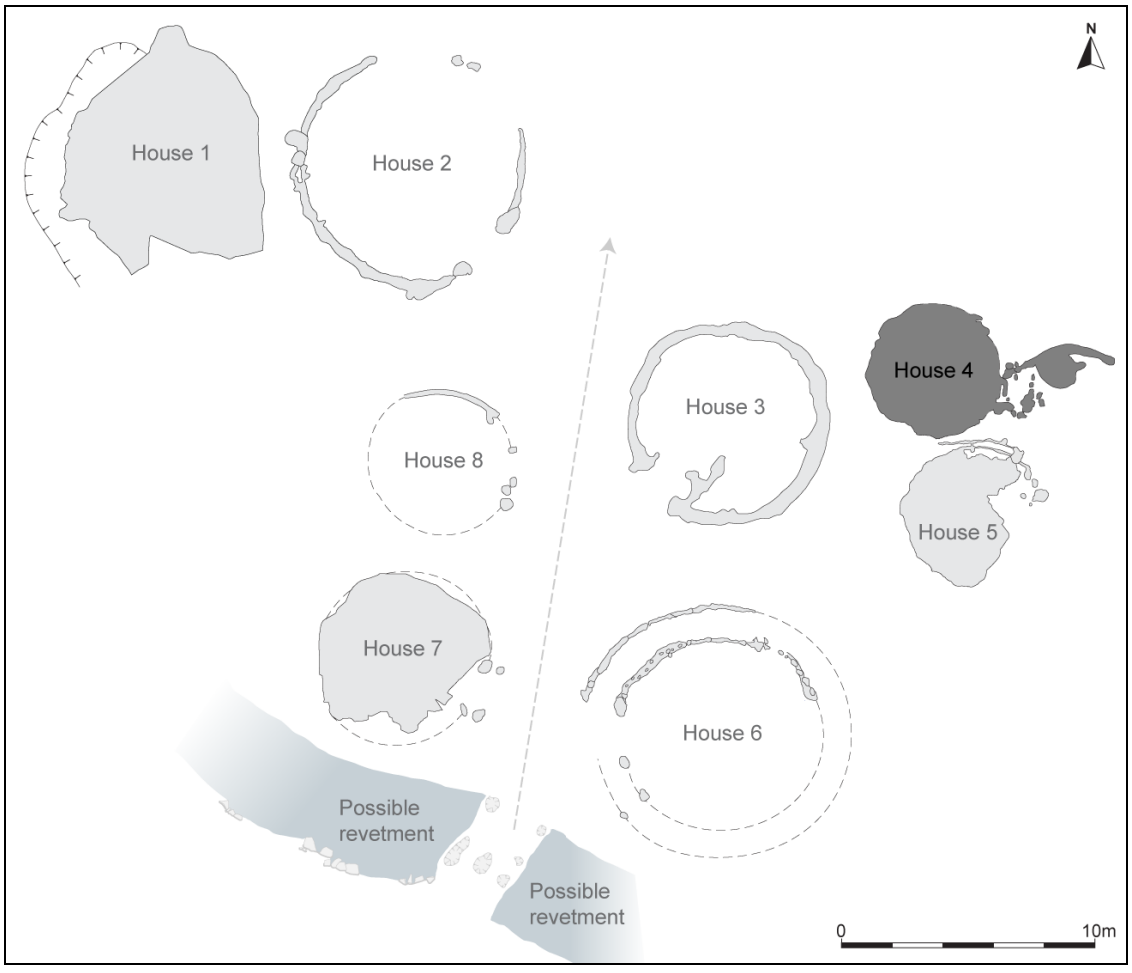


Fig. 4.30 Schematic plan showing the relative position of House 4 in the Phase 6 settlement at Broxmouth (image copyright The Broxmouth Project)

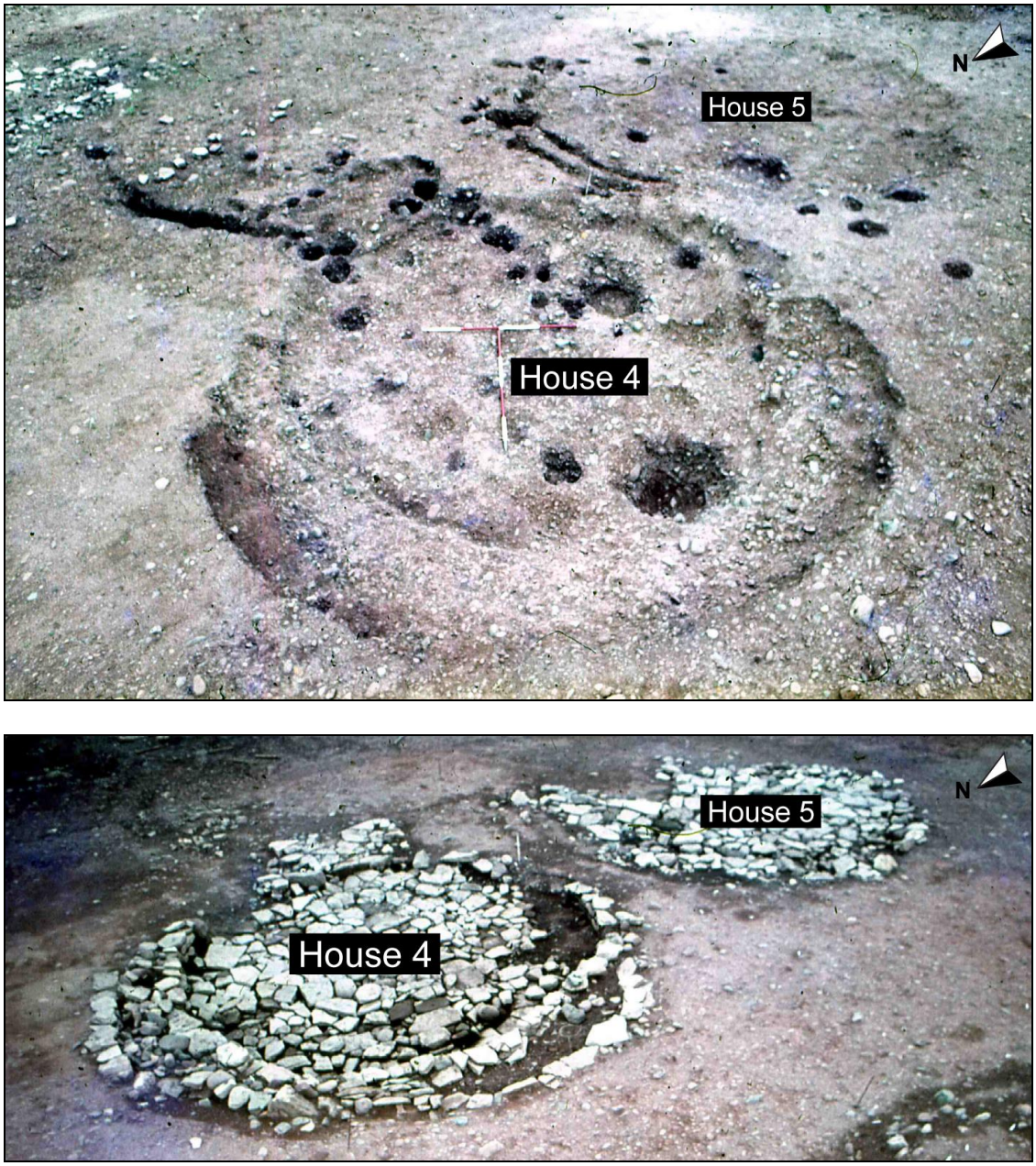


Fig. 4.31 The close proximity of Houses 4 and 5 (photographs: Broxmouth archive).

4.4.1 ***Stage 1: Construction***

Wall

The construction of House 4 began with the digging of a scoop, with an extrapolated circuit of 7.3m x 6.8m (38.5m^2; Figs. 4.32 and 4.33). The scoop shallowed towards the east-facing entrance, where it was barely perceptible. A stone wall (JDL), surviving to at least four courses (0.4m) high, was constructed against the scoop, the intervening space being infilled with redeposited natural. It is possible that rafters sat on, or were bedded into, the wall-head or on the original ground surface above the scoop.

It is assumed that the walls of House 4 were originally continuous around its circumference, having been removed by robbing or plough truncation where it was flush with the original ground surface, and thus more easily accessible and more likely to collapse (if free-standing). Indeed, House 5 (directly south of House 4), with a shallower stance, has only very short sections of wall surviving (Figs. 4.59 and 4.63).

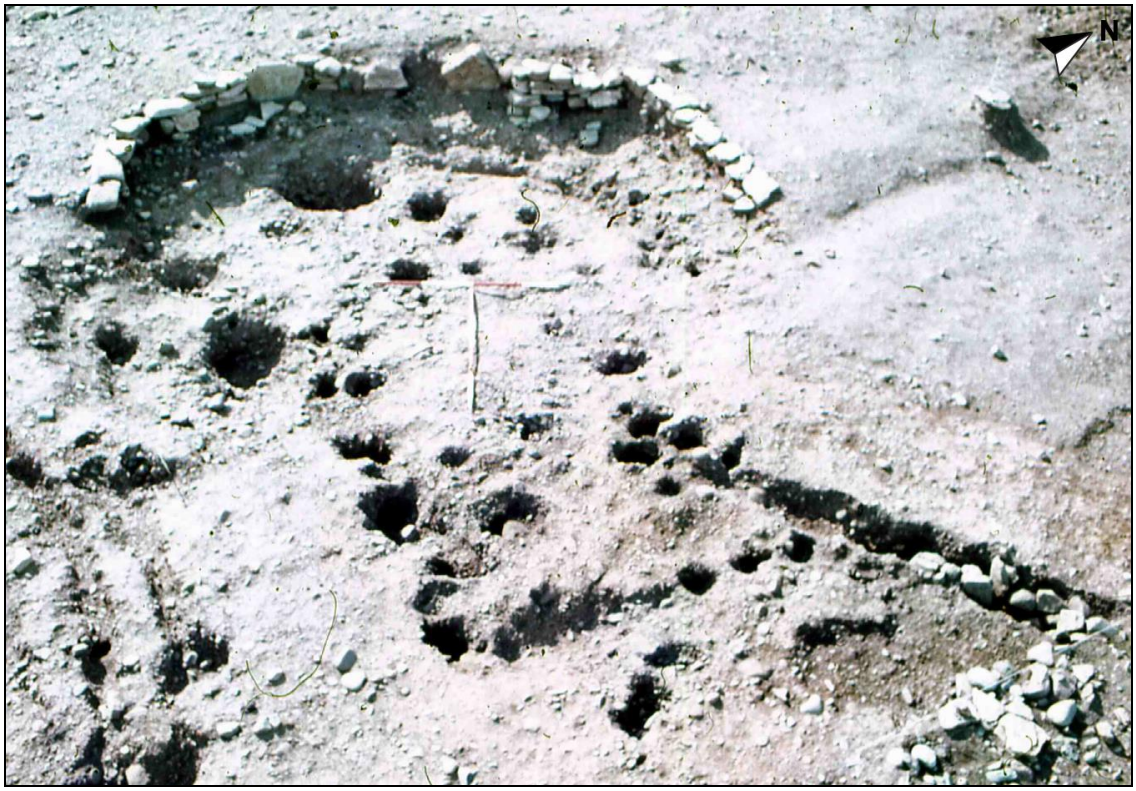


Fig. 4.32 House 4, almost fully-excavated, with the stage 1 wall (JDL) visible (photograph: Broxmouth archive).

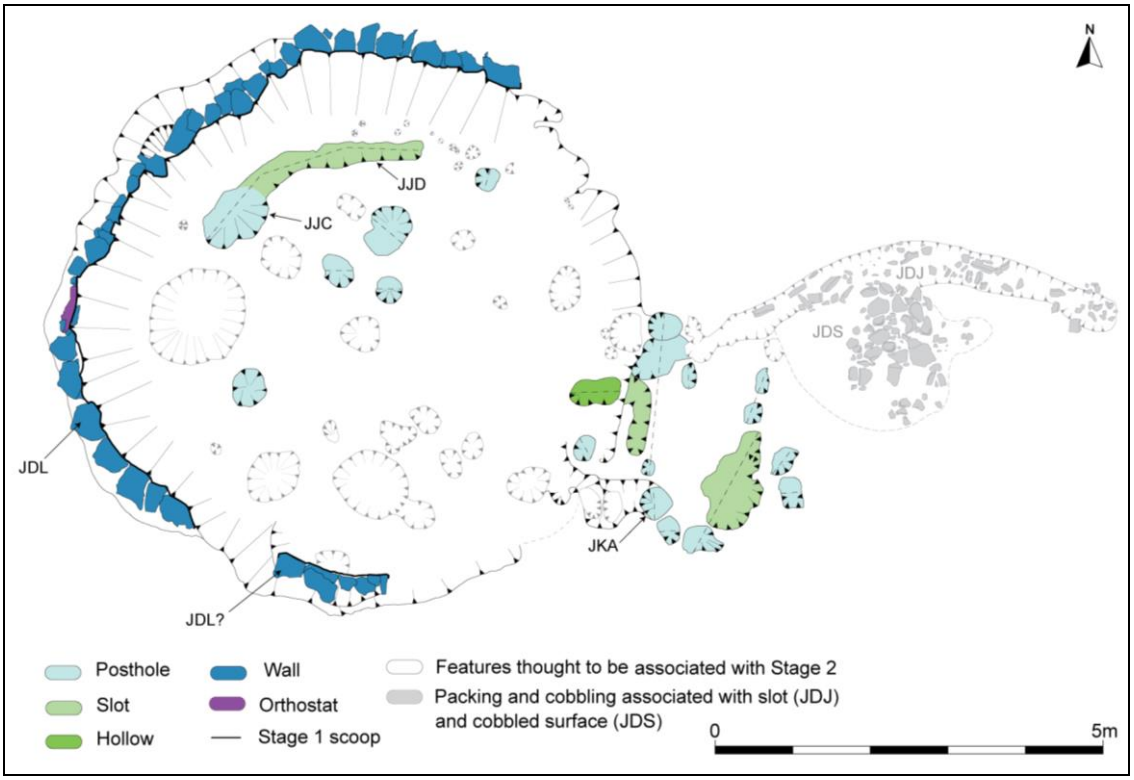


Fig. 4.33 Stage 1 features of House 4 (image copyright The Broxmouth Project). The later slot (JDJ) which truncates features forming the northern part of the timber porch is included to show its relative position.

The construction of the wall varies around its circuit, with the north-western sector appearing particularly straight (Fig. 4.33), suggesting that it may have been built in sections. Orthostats do not appear to have been commonly employed in wall construction (*contra* Hill 1982a, 173), with small, coursed stones predominating. A single orthostatic slab was, however, placed within the stage 1 wall, roughly opposite the east-facing entrance (Fig. 4.34); a similar position is taken up by a sole orthostat in the stage 4 wall and suggests that this position may have been significant. The stage 1 orthostatic slab is also similar to that placed in front of the orthostat in the stage 4 wall, prior to infilling of the intramural space between the stage 4 and 5 walls (section 4.4.5).

Fig. 4.34 Orthostatic slab in the stage 1 wall (JDL), similar to that placed in front of the inner face of the stage 4 wall (JDO) prior to infilling of the intramural space during stage 5 (photograph: Broxmouth archive). The quern (SF934) is associated with the stage 3 paving (JEM).

A worked stone (SF1009; Fig. 4.38; Table 4.10) appears to have been incorporated into the wall, though had tumbled from its original position. An unfinished bone scoop (SF286; Table 4.10; Fig. 5.11, section 5.2.2), was 'tucked under' this wall, and may have served as a foundation deposit for its construction; a similar artefact (SF289) was also deposited beneath the stage 5 wall (JDP; Table 4.10).

Some sections (Fig. 4.35), show the stage 1 wall sitting on a small lip of unquarried material. This may have been a deliberate design feature to increase head room under the eaves, or, as in Houses 2 and 3, may have resulted from erosion of the stage 1 floor surface through extensive use-wear; the stage 3 paved surface may have been laid to reduce this erosion.

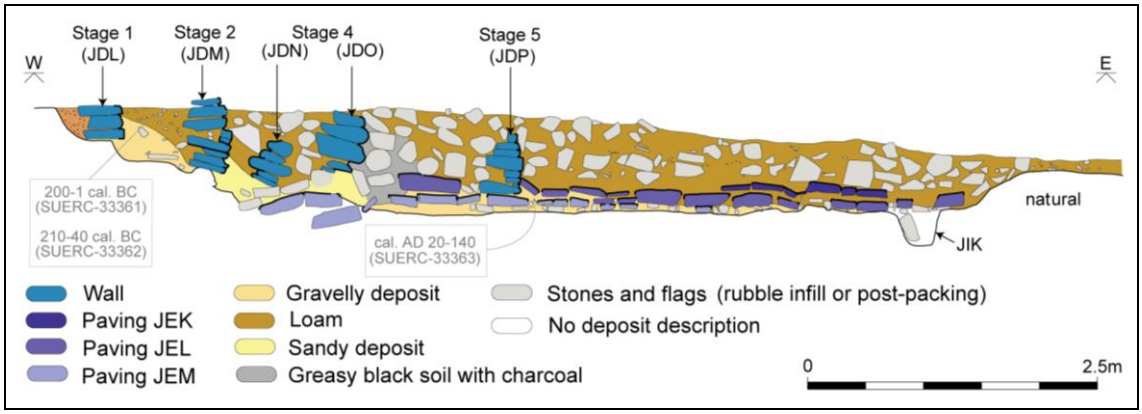


Fig. 4.35 The various stages of walling and paving in House 4 (image copyright The Broxmouth Project).

Entrance features

It is difficult to definitively assign the House 4 entrance features (c. 1m wide) to a particular stage of construction, although it is perhaps reasonable to assume that the east-facing orientation was an original design feature. One of the southern entrance postholes (JKA), included a rotary quern stone fragment (SF924), which shows evidence of having been deliberately defaced (McLaren in press, 2013). Another large posthole (JIK), lying to the north-east of the entrance, but possibly associated with it (at least from stage 2 onwards), contained a stone ball (SF789; Table 4.10).

Postholes and slots outside the entrance appear to be associated with a complex timber porch (Figs. 4.32 and 4.33). Whilst it is difficult to confirm, given that the northern side of the posthole arrangement is truncated by a later slot (JDJ; Fig. 4.43), it is possible that this porch is L-shaped in plan, with entry from the north. If so, this is the only porch of its kind at Broxmouth. Alternatively, if the north side of the porch was closed, House 4 may have been entered by way of a raised door on the east side, in order perhaps to restrict access by animals. Whatever the exact route of entry into House 4, it would have created a monumental façade to the building. It would also have served to control or restrict the movement of people in and out of the building, and the passage of light into the interior, which could suggest some heightened social significance in comparison with the other Phase 6 roundhouses, which lack this feature. Again, it is difficult to definitively assign the timber porch to a particular stage of construction, though it must pre-date stage 4 since the slot (JDJ), which truncates its northern side, is sealed by the stage 4 paved porch (JIY).

Internal Features

Whilst numerous negative features lie at the base of the scoop, it is not possible to definitively associate them with either stage 1 or stage 2. The shallow nature of some features could suggest that they were cut from a higher (un-eroded), stage 1 floor surface, but the laying of the stage 3 paving also truncated the stage 2 floor, and so relative truncation cannot be used to confirm a stage 1 association. Nevertheless, several extremely truncated features have been tentatively assigned to this stage (Fig. 4.33), and include posthole bases, and a curvilinear slot (JJD), concentric with the edge of the scoop and possibly suggesting annular division of space. The paucity of features confirmed to this stage prevents further discussion of the likely internal arrangements at this time.

4.4.2 ***Stage 2: Re-walling***

Wall

Stage 2 sees the construction of a second stone wall (JDM), 0.8m (max. distance) inside the first, though they converge in the south-west and probably also originally in the north-east. This second wall sat on the edge of a new, deeper scoop (0.8m deep) and reduced the diameter to 6m (28.3m^2; Fig. 4.36). The cut for this new scoop can be seen in section (Fig. 4.37), where it has truncated debris swept to the rear of the building during, or at the end of, stage 1; it is possible that at least some depth of the scoop, particularly that below the base of the wall, is the product of floor erosion. The timber porch, if not constructed during stage 2, appears to have been retained from stage 1.

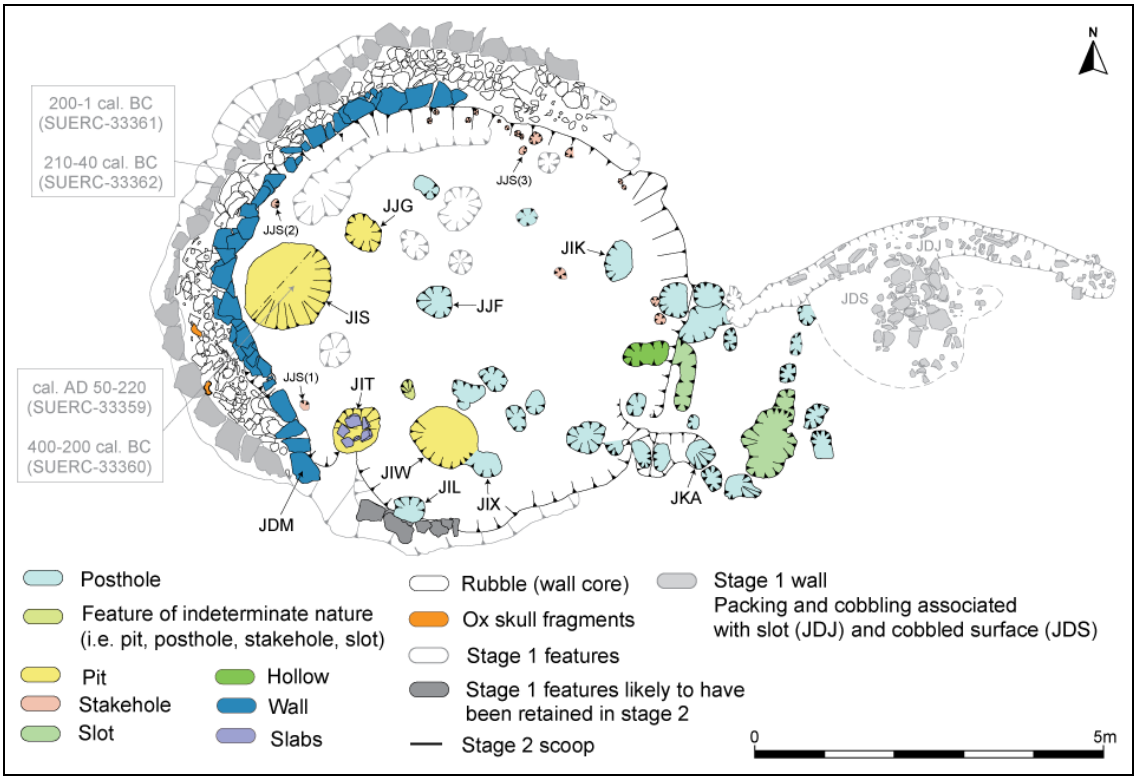


Fig. 4.36 Stage 2 features of House 4 (image copyright The Broxmouth Project)

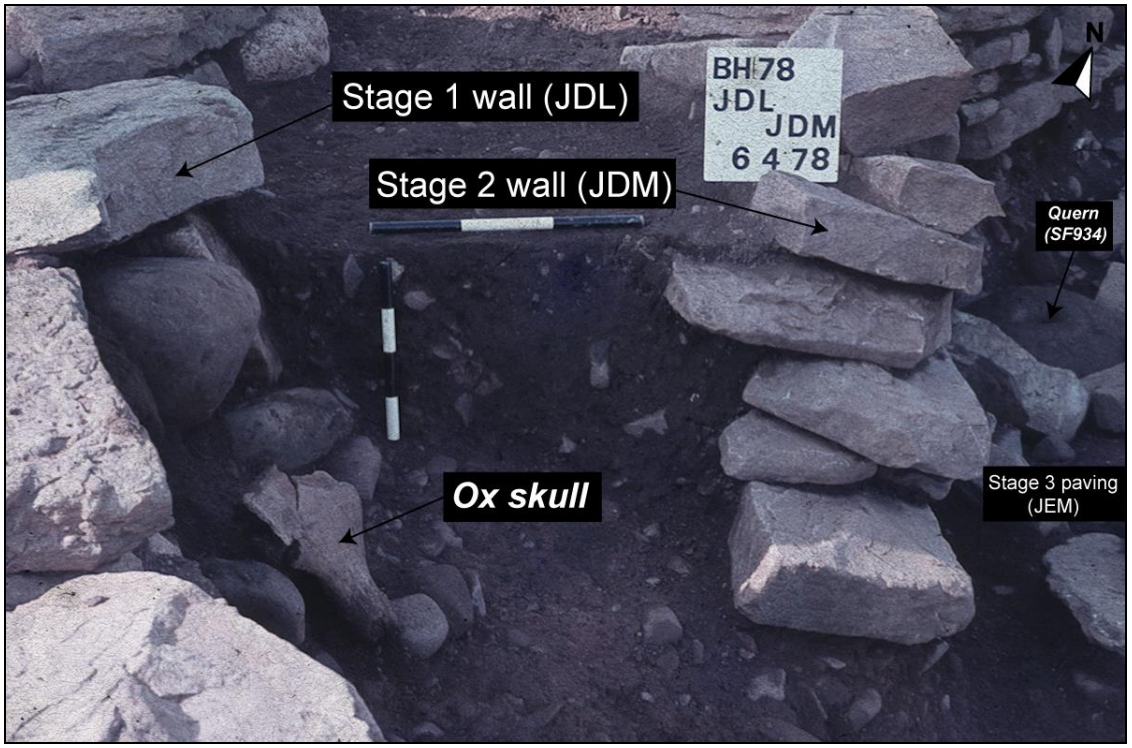
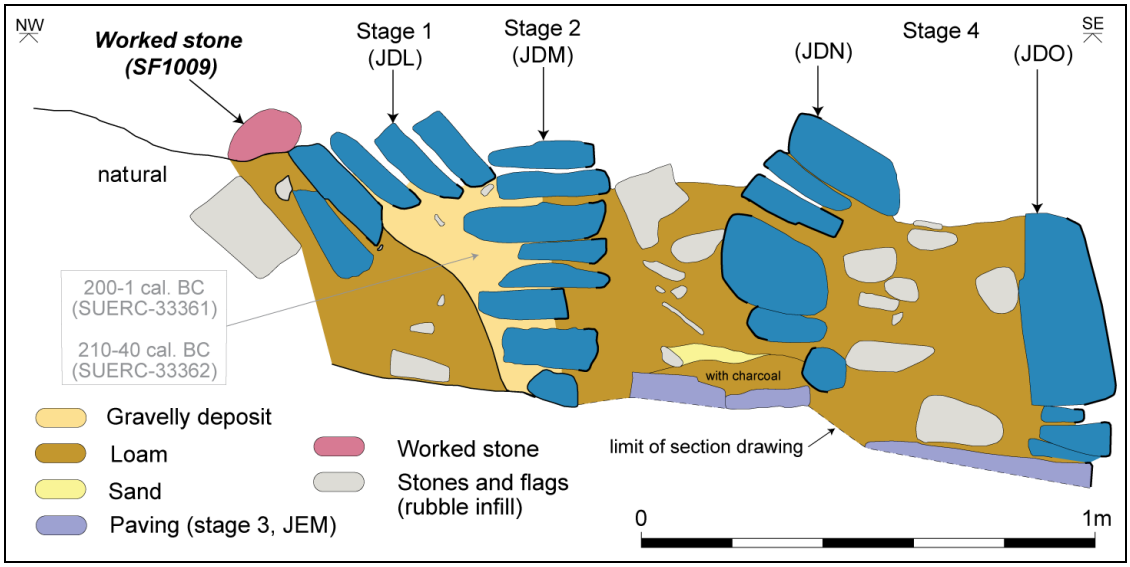


Fig. 4.37 The stage 2 wall cut through debris accumulated against the base of the stage 1 wall (photograph: Broxmouth archive). The southernmost fragment of ox-skull (as shown in Fig. 4.39) can be seen at the base of the stage 1 wall. The quern (SF934) is associated with the stage 3 paving (JEM).

Sections suggest that the stage 1 wall collapsed only after construction of the stage 2 wall, upon which it rests (Fig. 4.38), indicating that the decision to modify House 4 may not have been prompted entirely by practical necessity. It is however equally possible that the wall collapse represents the inevitable end of a structure which was long showing signs of instability. Perhaps the most significant aspect of the stage 2 rebuild therefore, and one which recurs across the stone-walled roundhouses of Phase 6, is the *in situ* retention of the stage 1 wall fabric. Not only would this practice have required additional resources, consecutive rebuilds also significantly reduced the internal area of the successive buildings. Whilst this may have enhanced structural stability, it seems likely that the retention of wall fabric represents more than practical necessity, and may suggest that social factors were also involved.



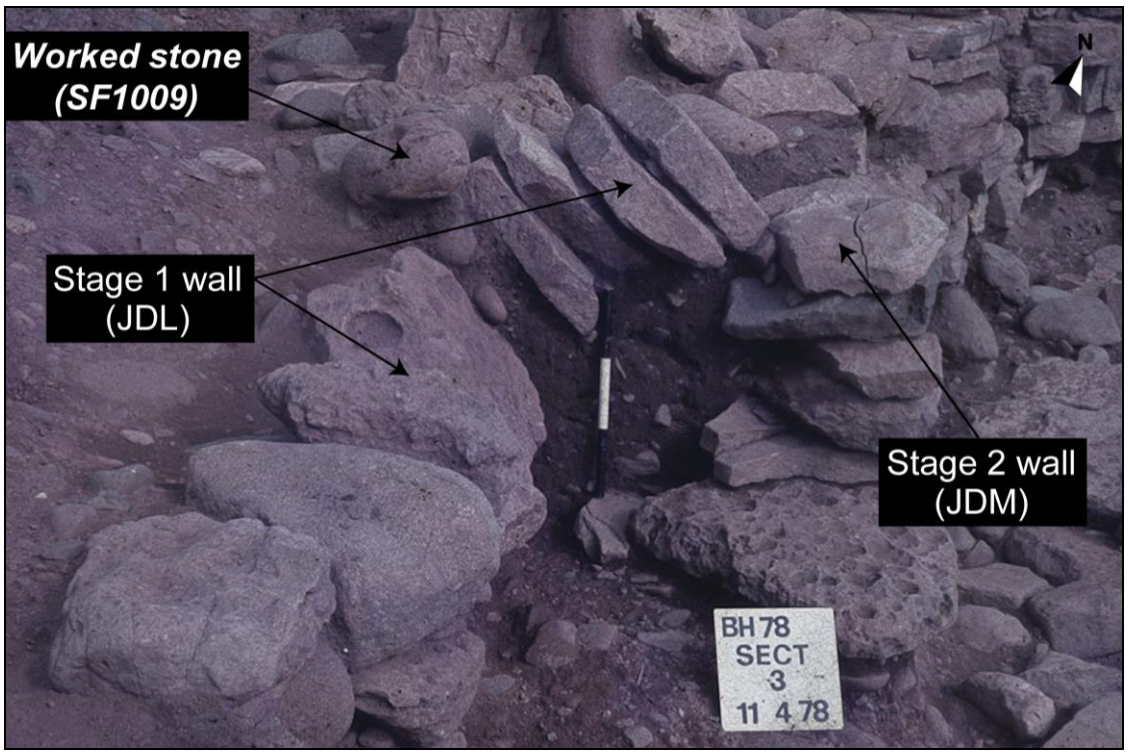


Fig. 4.38 The tumbled stage 1 wall (JDL; section: copyright The Broxmouth Project; photograph: Broxmouth archive). The worked stone (SF1009) possibly tumbled from the stage 1 wall fabric during its collapse.

Three saddle querns (SF927, SF907 and SF924; Table 4.10) were incorporated into the stage 2 wall, whilst two substantial fragments of ox skull (now lost; Figs. 4.36, 4.37 and 4.39), and other artefacts (Table 4.10), appear to have been deliberately placed at the base of the stage 1 wall, prior to infilling of the intra-mural space in stage 2; it is likely that at least some of these artefacts represent structured deposits associated with the foundation of the stage 2 building. AMS dates of 200-1 cal. BC (SUERC-33361) and 210-40 cal. BC (SUERC-33362) were returned for the intramural deposit (Table 4.12). Interestingly, a pottery sherd (V120) found in association with the stage 2 wall (JDM) derives from the same vessel as another recovered from the infill of a stage 2 pit/ posthole (JIW/ JIX), presumably deposited at the end of this stage of occupation. This suggests that the latter sherd was curated for some time before deposition (Table 4.10; MacSween in press, 2013).

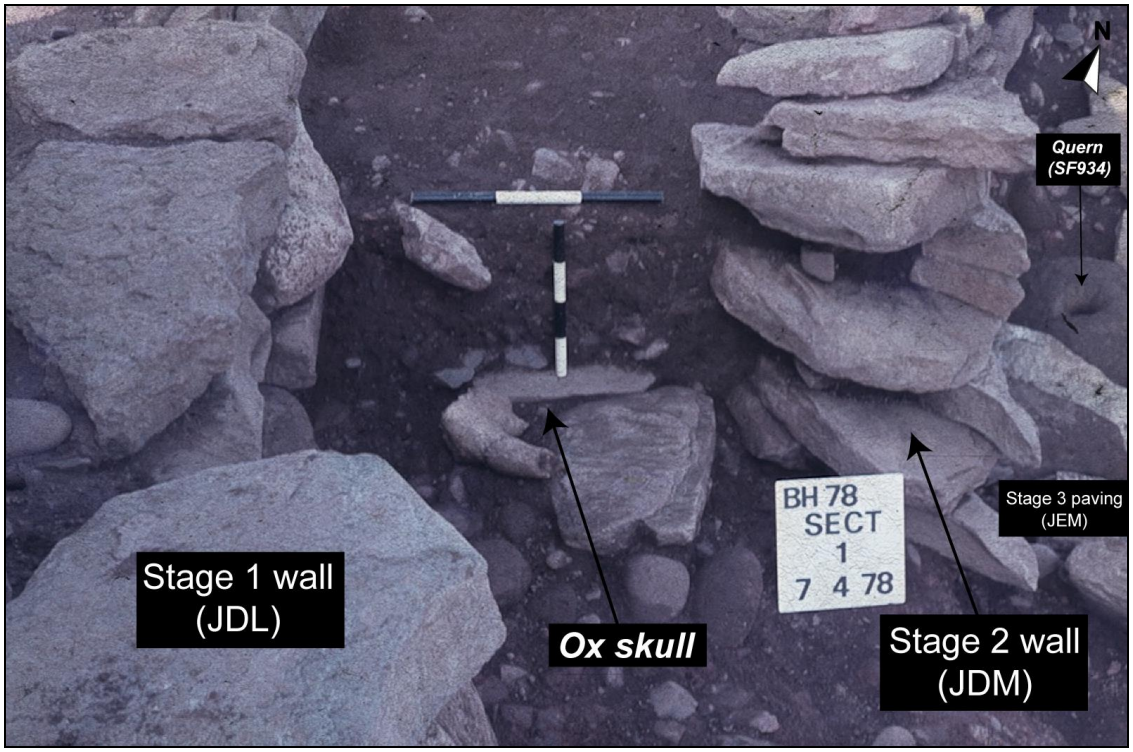


Fig. 4.39 The northernmost ox skull fragment (as shown in Fig. 4.36) between the stage 1 and 2 walls (photograph: Broxmouth archive). The southernmost ox skull fragment can be seen in Fig. 4.37.

Additional sections of walling (i.e. JDQ; Fig. 4.40), between the stage 1 and 2 walls, may have served to buttress the fragmenting stage 1 wall and/ or provided additional support for rafters resting on or bedded into the intramural wall core; similarly, a putative post-pad (JIT), and a posthole (JIL) adjacent to the wall, may have supported the roof in the south of the structure.

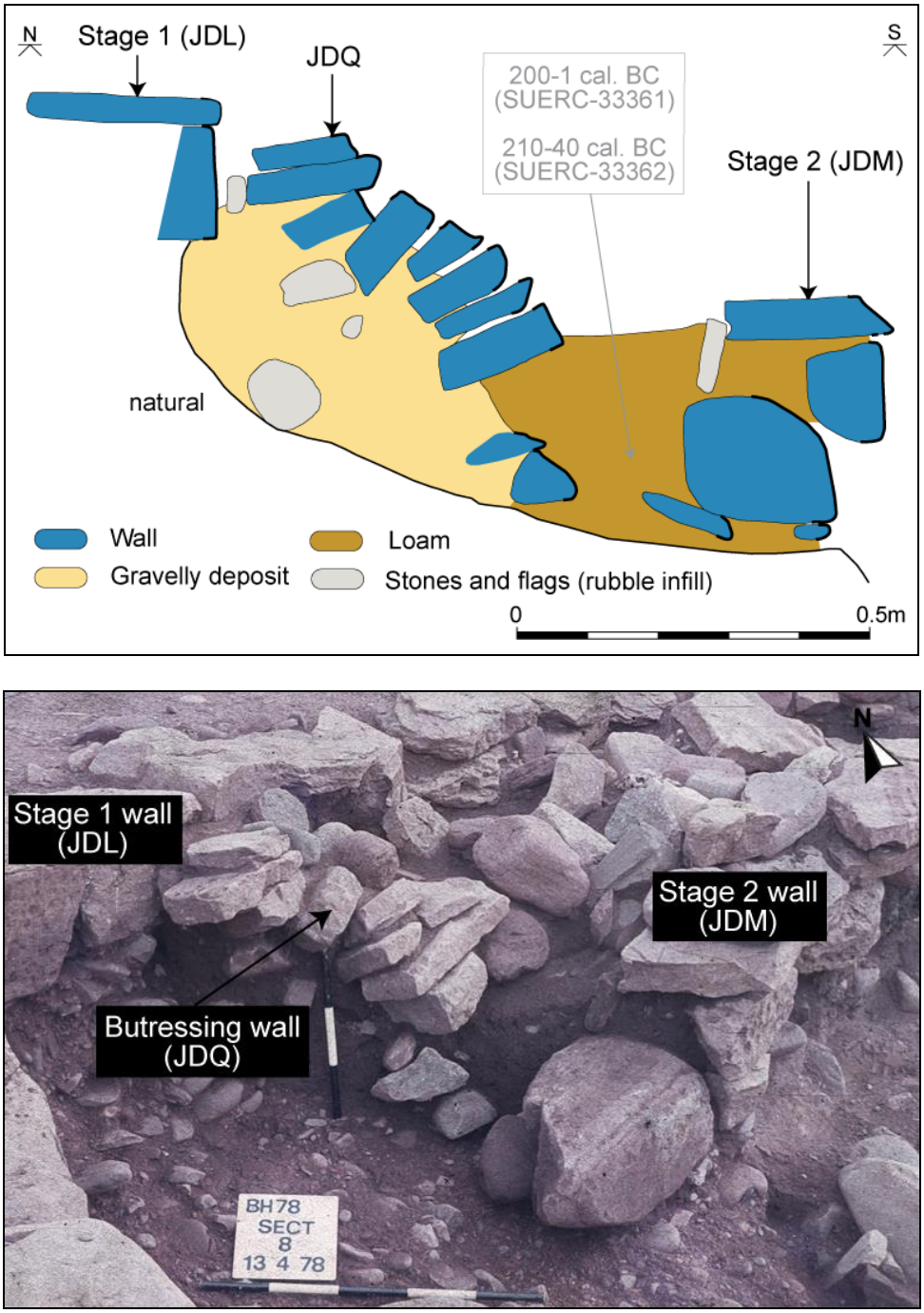


Fig. 4.40 Supporting wall (JDQ) between the stage 1 and stage 2 walls (section: copyright The Broxmouth Project; photograph: Broxmouth archive)

Internal features

A number of small stakeholes (JJS and various unnamed features) run along the base of the stage 2 wall (Fig. 4.36); these are too small to have served as roof supports and most likely held a wooden hurdle against the inner face of the wall. The function of such a hurdle is unclear but several possibilities exist. If simply comprising bare wattle-work, the lining may have been used to dry foodstuffs or hang utensils from. Alternatively, the hurdles may have been covered with daub/ plaster/ limewash or textiles, providing insulation against the cold stone, reflecting light around the roundhouse interior (if painted with a light colour) and/ or serving as a base for decorative motifs (Figs. 5.22-5.25, section 5.2.3). Whatever its function, this wall-lining clearly attests to the elaboration and customisation of internal spaces; subtleties which are rarely glimpsed in roundhouse plans.

The remaining negative features within the House 4 interior (with the exception of those discussed in relation to stage 1) are thought to be associated with stage 2 occupation (Fig. 4.36); the majority are sealed by the stage 3 paving (JEM), which is assumed to have originally represented a total floor covering. As in Houses 2 and 3, negative features show little evidence of inter-cutting, suggesting their broad contemporaneity and/ or a certain degree of continuity in function and use of space within the roundhouse interior; the apparent longevity of this stage is suggested by the degree of erosion to the floor surface. These features also respect the area between the entrance and the centre of the structure, supporting the interpretation that the easterly orientation was an original design feature.

Among the more significant features in stage 2 is a central posthole (JJF), measuring 0.4m in diameter x 0.3m deep, which would have contained a post c. 0.2m in diameter (Figs. 4.36 and 4.41). It is unlikely that a central post would have been either a necessary or effective roof support, and is more likely to have been associated only with the construction of stage 2 (Pope 2008, 17). Indeed, the post appears to have been deliberately removed whilst relatively intact, with the resultant void being capped with a slab and sealed with ash and an organic deposit containing molluscs. Ethnographic evidence (e.g. Bradley 2005, 48-49) suggests that structural elements associated with the construction (or 'birth') of a building may have held particular symbolic significance, which may explain the structured closure of this posthole, and the removal of the post, perhaps for re-use elsewhere in the Phase 6 settlement. Removal of the post would also have created a more open and flexible internal space, whilst the unusual sealing deposits may have marked its former location to the stage 2 inhabitants.

No viable post-ring exists in stages 1 or 2 of House 4, the roof presumably having been supported by wall-plates on the stone walls or their associated wall cores, and including a ring-tie near its apex. Several of the Middle Iron Age roundhouses from Kintore, Aberdeenshire, one (RH23) of which had a diameter of 13m (larger than House 6), similarly lacked any evidence for such features, its rafters apparently supported on an encircling bank (Cook and Dunbar 2008, 326); truncation of the original ground surface at Broxmouth is likely to have removed such banks from the archaeological record, if they existed, though presumably the flat ground surface would have served just as well.

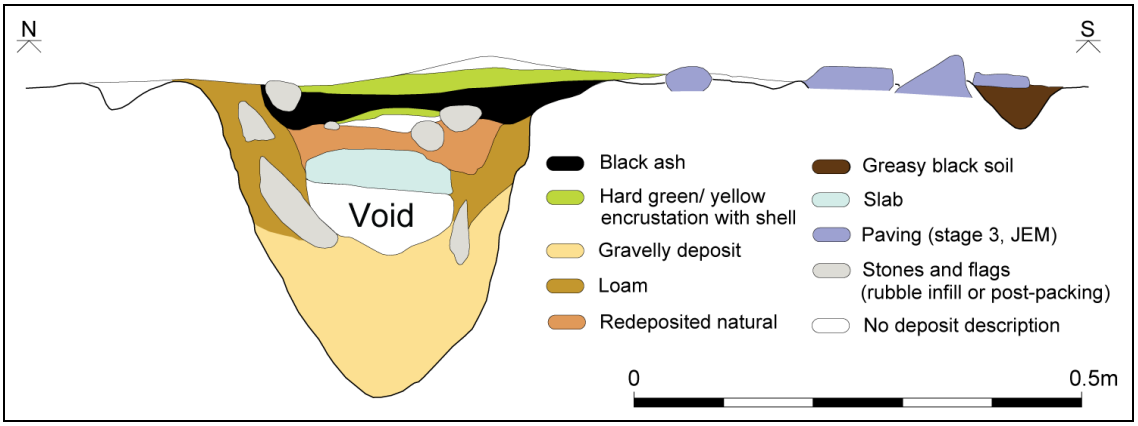


Fig. 4.41 Central posthole (JJF; image copyright The Broxmouth Project)

A number of large pits cluster in the south and west of the stage 2 interior (Fig. 4.36), in a similar position relative to the doorway to those in Houses 2 and 7 (Fig. 5.26, section 5.3.1). The largest of these pits (JIS, 1.2m x 1.3m x 0.8m deep; Fig. 4.42) was clay-lined, and its fill included a gaming piece (SF274; Table 4.10; Fig. 5.13, section 5.2.2; Hunter *et al* in press, 2013), of which two similar examples (SF272 and SF273) were recovered from between the stage 2 (JDM) and 4 (JDN/ JDO) walls; if these belonged to a set, the latter two pieces must have been curated for a considerable period prior to their deposition in stage 4. Two quern fragments (SF941 and SF934; Fig. 4.36) sealed this pit (JIS) as part of the stage 3 paving (JEM) which overlay it. It is likely that they were deliberately deposited in this location, like many of the artefacts in the pit's infill, to serve as structured closure deposits for this large, and presumably important, stage 2 feature; they would also have referenced its former location to the inhabitants of stage 3. AMS dates of cal. AD 50-220 (SUERC-33359) and 400-200 cal. BC (SUERC-33360) obtained from the infill of pit JIS (Table 4.12) suggest a mixed derivation for this deposit.

A conjoined pit and posthole (JIW and JIX; Fig. 4.42) lie to the south-east of pit JIS; the larger of the two (JIW; 1m x 0.9m x 0.6m deep), was flagstone-lined. In contrast to pit JIS, the infill of these features contained only a single pottery sherd (V120), although it derived from the same vessel as sherds deposited between the stage 1 and 2 walls at the beginning of stage 2 (Table 4.10), and may therefore have been curated prior to deposition. The stage 3 hearth (JIU) was constructed directly over these features, which may indicate some continuity in the ordering of internal space, or deliberate referencing of these large, and presumably significant, features in the stage 3 roundhouse; a similar relationship between a pit (HEN) and a hearth (HBS) exists in House 7 (Fig. 4.74, section 4.7.1). Pits JIW, JIS, and JJG, to the north-west (Fig. 4.36), were infilled with similar deposits, suggesting their contemporaneous abandonment.

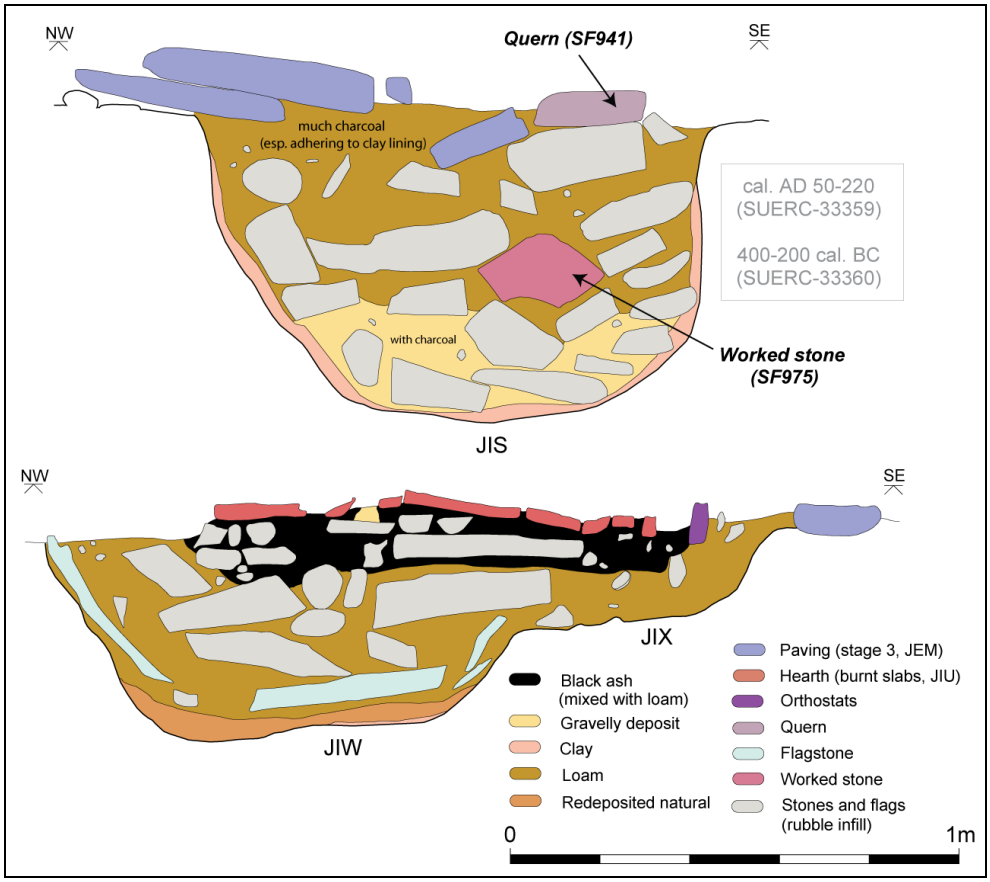


Fig. 4.42 The largest of the stage 2 pits (JIS, JIW), with posthole JIX (image copyright The Broxmouth Project).

No hearth is present in stages 1 or 2, and whilst it is possible that it was truncated by the stage 3 paving, it is surprising that no vestiges survive; thus, either stages 1 and 2 contained no hearth, or it existed at first floor level.

Closure

A black ashy deposit, covered the western part of the stage 2 floor (site book), and sealed pit/ posthole complex JIW/ JIX (Fig. 4.42). This material may have been deliberately deposited during the closure of stage 2 and/ or served as a foundation (both physically and symbolically) for the stage 3 paving (JEM); given the frequency with which the Phase 6 roundhouses appear to have been swept clean, it is unlikely to represent *in situ* stage 2 occupation material. The fact that this material seems only to have been deposited over the western half of the interior may be significant in its reflection of the activities, or symbolic associations, of this part of the roundhouse (cf. Hingley 1990; Webley 2007). Similar deposits were observed at Maiden Castle (Sharples 2010, 234), and suggests that midden may have played an important symbolic role in prehistory.

4.4.3 ***Stage 3: Paving***

Paving

Stage 3 saw the laying of a sandstone paving (JEM; Figs. 4.43 and 4.44), although the stage 2 wall (JDM), and wattle lining, were re-used (Fig. 4.119, top). Figs. 4.43 and 4.44 show only a partial covering by the stage 3 paving (JEM), but it is likely that it originally extended across the whole interior (note the slabs over posthole JIK), and was later robbed or re-used. This surface may have been laid to minimise the severe erosion seen in stages 1 and 2.

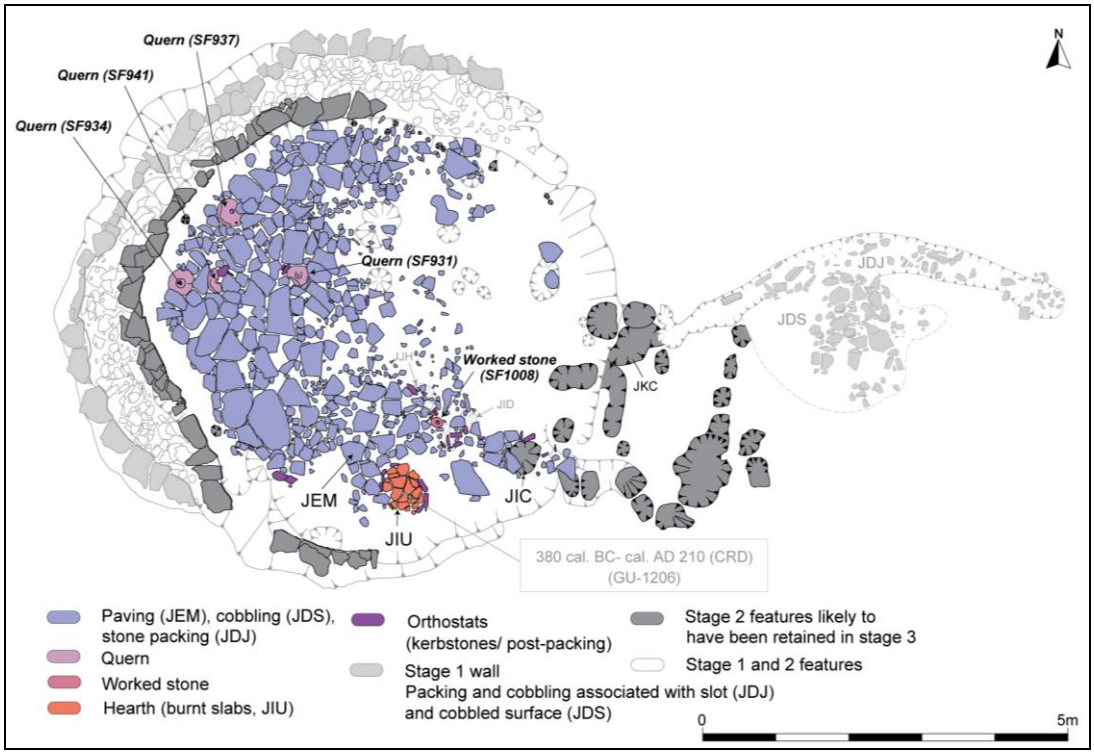


Fig. 4.43 Stage 3 features of House 4 (image copyright The Broxmouth Project)

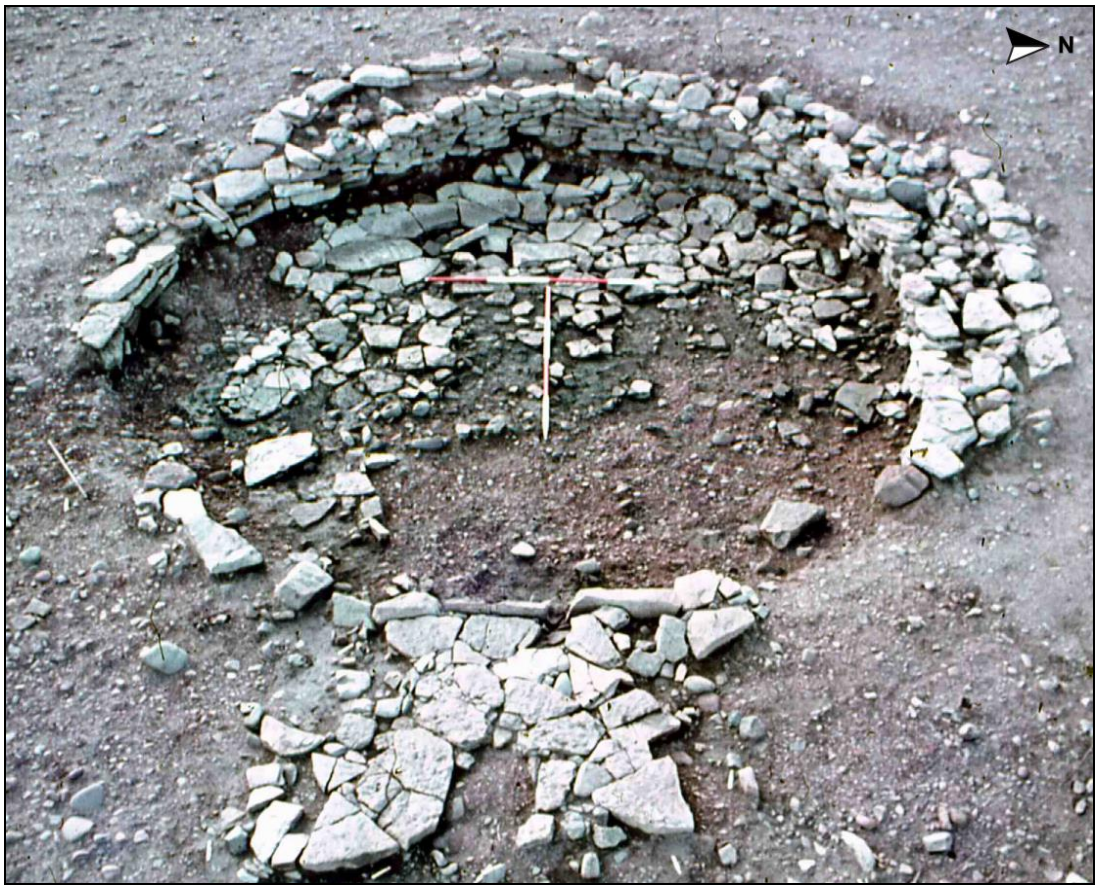


Fig. 4.44 House 4 excavated to stage 3 (photograph: Broxmouth archive). The stage 4 paved porch and door furniture are not associated with stage 3, which retained the timber porch structure (Figs. 4.33 and 4.36).

Four upper, rotary, quern stones (SF937, SF941, SF934 and SF931) were incorporated into what survives of the stage 3 paving. As noted previously, two of these (SF941 and SF934) overlay the largest of the stage 2 pits (JIS), perhaps contributing to the structured closure of this feature and referencing its former location to the stage 3 inhabitants. Parallel grooves on the upper surface of quern SF934 suggest its re-use for sharpening metal blades; since the quern was deposited grinding face down, it is possible that this took place after its incorporation into the stage 3 paving. A hollowed stone (SF1008) incorporated into the stage 3 paving, between two postholes (JID and JJH) possibly associated with the stage 2 entrance furniture (Fig. 4.43), may have been associated with their structured closure and/ or deliberately referenced their former position.

Laying of the stage 3 paving signals a major change in the function of House 4, or at least in the accommodation of certain functions, since it sealed all of the large, stage 2, pits (and most of the other negative features); one exception may be posthole JIC, part of the entrance furniture, since its orthostats protrude through the paving.

Hearth

In contrast to stages 1 and 2, the stage 3 interior included a small paved hearth (JIU; 0.8m x 0.7m; Figs. 4.43 and 4.45), comprising sandstone slabs surrounded by a kerb of orthostats. It was located in the south of the structure and was much smaller than the centrally-placed hearths of Houses 3 and 7. The location of this hearth, close to the edge of the scoop, suggests that the stage 2

wall must have been significantly higher than its surviving courses at this point, in order to sufficiently elevate the eaves above the flames. A conventional radiocarbon date of 380 cal. BC- cal. AD 210 (GU-1206) was returned for this feature as part of the original dating programme (Table 4.12).

The small size and off-centre position of the stage 3 hearth is perhaps surprising given the relative monumentality (in terms of resource consumption, porch elaboration and structured deposition) of House 4 in comparison with those structures (Houses 3, and to a lesser extent, House 7) which include large, central hearths. It is possible that referencing the location of the stage 2 pit/ posthole complex (JIW/ JIX) influenced this off-centre location, though this is perhaps unlikely to be the sole explanation. Whatever the reason for its off-centre location and morphology, the hearth appears not to have played the same central role in the organisation of space as it must have done in Houses 3 and 7, perhaps suggesting that cooking and eating were less important in the social use and organisation of this structure. Since only one artefact (a heavily worn bone splinter point, SF254; Table 4.10), was recovered from the House 4 hearth, it is impossible to comment on any alternative function it may have performed.

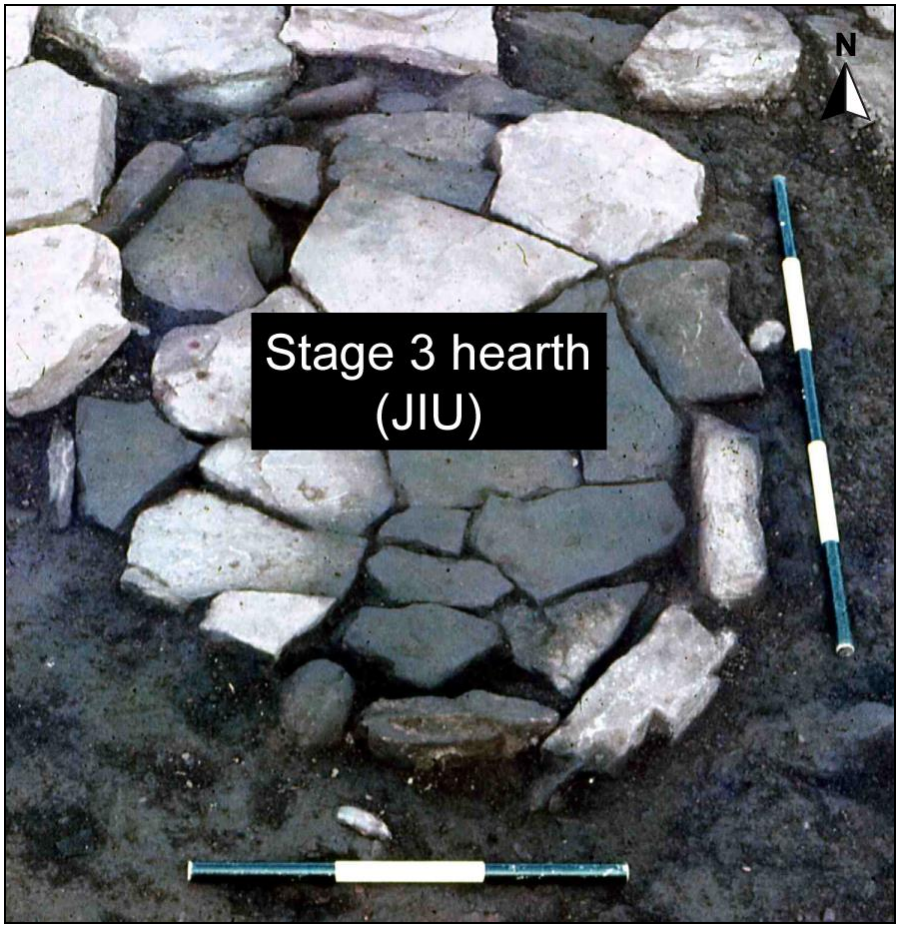


Fig. 4.45 Stage 3 hearth (JIU; photograph: Broxmouth archive)

Closure

As in stage 2, stage 3 appears to have ended with the deposition of a thick, black, ashy sediment over much of the paved floor. Again, it is unlikely, given strong evidence at Broxmouth and elsewhere for the meticulous cleaning out of roundhouse interiors (e.g. Armit 2006, 241; Parker Pearson and Richards 1994b, 48), that this deposit represents *in situ* occupation debris, and is perhaps better interpreted as having been deliberately deposited both as an act of closure for stage 3 occupation, and as a suitable foundation (both physically and symbolically) for the stage 4 paving.

4.4.4 ***Stage 4: Re-walling and re-paving***

Wall

Stage 4 sees the construction of a new, double-faced, wall (JDN/ JDO), which reduced the internal area to 6.0m x 4.7m (22.5m^2; Fig. 4.46). As with stage 2, this wall runs concentrically within that (JDM) of the previous structure, converging with it in the north and perhaps also originally in the south, though the two are not well aligned here. Alternatively, the neat, curving edge of the stage 4 paving (JEL) suggests that the stage 4 wall may have continued in this southern sector (complemented by the stage 2/ 3 wall in the north); a small, un-named, posthole, lying on the lip of the scoop, possibly provided additional wall or roof support where the scoop shallowed. Again, the wall fabric from stages 1 and 2/ 3 was retained, though the wattle wall-lining was not (Fig. 4.119, bottom), the new wall having been constructed directly over the stage 4 slabs (Fig. 4.46).

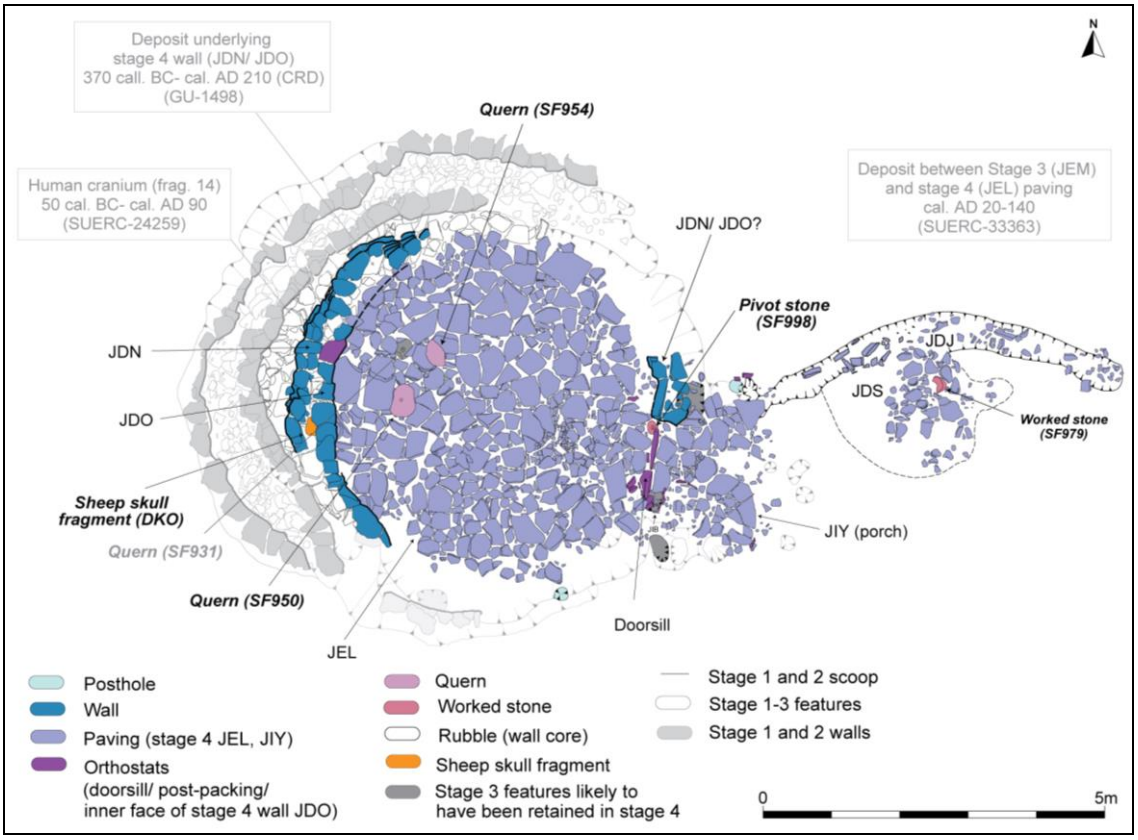


Fig. 4.46 Stage 4 features of House 4 (image copyright The Broxmouth Project).

A short length of double-faced wall immediately north of the entrance is likely to be associated with this stage of occupation, since it complements the modified stage 4 door furniture (Fig. 4.46); it is likely that previous stages of walling also extended to this point, but were robbed and/ or modified during reconfiguration of the entrance.

The stage 4 wall is the only double-faced example in House 4, though the stage 4 wall (HCE/ HCF) in House 7 also contained double-faced elements. It is possible that the slightly straighter line taken by the inner face (JDO) of the stage 4 wall resulted in too large a gap between it and the stage 2/3 wall in the west of its circumference and compromised the stability of the structure, particularly if rafters sat on the wall-head or on the intramural wall core. A caveat to this interpretation is the fact that the stage 5 wall (JDP), which is similarly constructed significantly forward of the stage 4 wall, is only single-skinned, though it is likely that some degree of structural down-scaling of House 4 had taken place at this time (see section 4.4.5).

Whatever the reason for the construction of the outer face (JDN), sections show that it was bedded onto rubble and midden between the stage 2/ 3 wall and the outer face (JDO) of the stage 4 wall; this suggests that it was a later constructional feature, and perhaps not part of the original stage 4 design. As such, it is more intriguing that, rather than construct the outer face of the stage 4 wall closer to that of stage 2/3, or to dismantle the latter entirely, it was left *in situ*, with even greater resources expended to strengthen and buttress it.

As with most of the House 4 walls, the stage 4 wall predominantly comprised small, coursed stones. As in stage 1, however, a single, large orthostat was incorporated into its outer face opposite the entrance (Figs. 4.46 and 4.47), perhaps forming a focus for the organisation of physical and social space within the interior (cf. Parker Pearson and Sharples 1999, 18; Fig. 5.30, section 5.3.1).

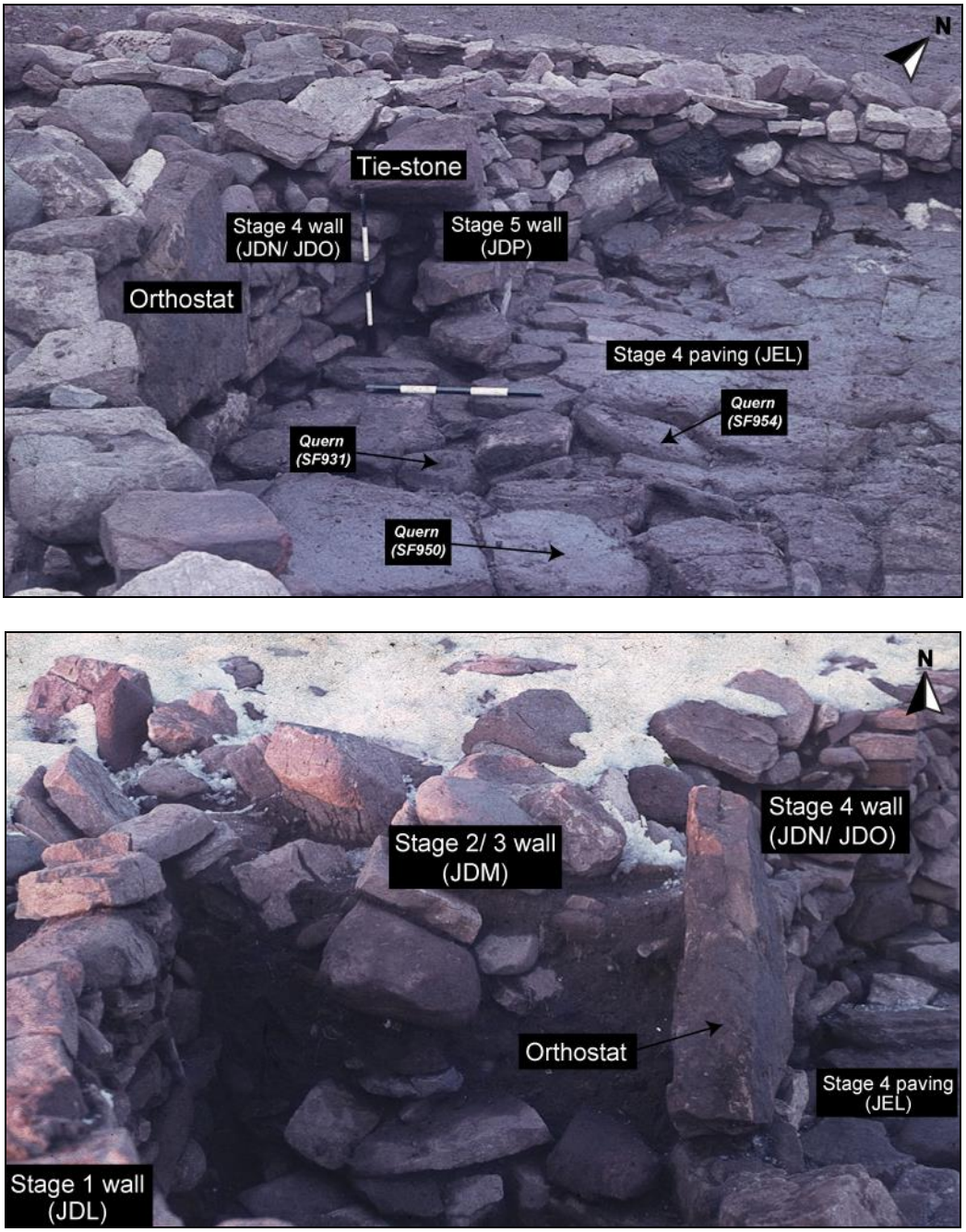


Fig. 4.47 The large orthostat in the inner face (JDO) of the stage 4 wall (photographs: Broxmouth archive). A tie-stone can also be seen between the stage 4 and 5 (JDP) walls (top), as can quern SF931 in the stage 3 paving (JEM), and querns SF950 and SF954 in the stage 3 paving (JEL).

A number of artefacts, and other material, were deposited between the stage 2/ 3 and stage 4 walls, and between the inner and outer skins of the stage 4 wall (Table 4.10). A deposit described as 'midden' (site book) included two fragments of human bone (cranium (14), mandible (19); Table 4.9) and a fragmented pottery vessel (V117; Table 4.10). The weathered and abraded condition of the human remains, in comparison with associated faunal bone (Hill 1995), suggests possible curation prior to deposition; this hypothesis is perhaps supported by the AMS date returned for fragment 14 (50 cal. BC- cal. AD 90, SUERC-24259), which pre-dates a complementary date (cal. AD 20-140, SUERC-33363) for material deposited between the stage 3 (JEM) and stage 4 (JEL) paving. The cranial fragment displayed peri-mortem trauma, probably a sword cut (Armit *et al* 2013), which may or may not be significant in its curation and deposition. Any symbolic association between these materials is unclear, but human bone and pottery similarly served as an apparent foundation deposit for Structure 3 at Cnip, Lewis (Armit 2006, 58, Illustration 2.26).

It is unclear whether or not other artefacts recovered from the same location also formed part of this 'midden deposit'; they included two gaming pieces (SF272 and SF273; Table 4.10), which appear to belong to the same set as another deposited in the infill of the stage 2 pit (JIS; SF274; Table 4.10) and thus possibly curated prior to deposition.

Frag.	Context	Element	Age (yrs)	Sex	Pathology	Date (cal., 95.4%)	Lab. Code
14	Between stage 2/ 3 (JDM) and 4 (JDN/ JDO) walls	Cranial frag.	Adult	F?	Peri-mortem fracture	50 cal. BC- cal. AD 90	SUERC-24259
19		Mandible, with teeth	17-25	?	N/A	Not dated	

Table 4.9 Human remains recovered from between the stage 2/3 (JDM) and stage 4 (JDN/ JDO) walls (after Armit *et al* 2013).

Other items recovered from between the outer and inner skins of the stage 4 wall included a well-used, long-handled antler comb (SF186; Table 4.10) and a fragment of sheep skull (DKO), mirroring the deposition of ox skull fragments between the stage 1 and 2 walls (Fig. 4.48).

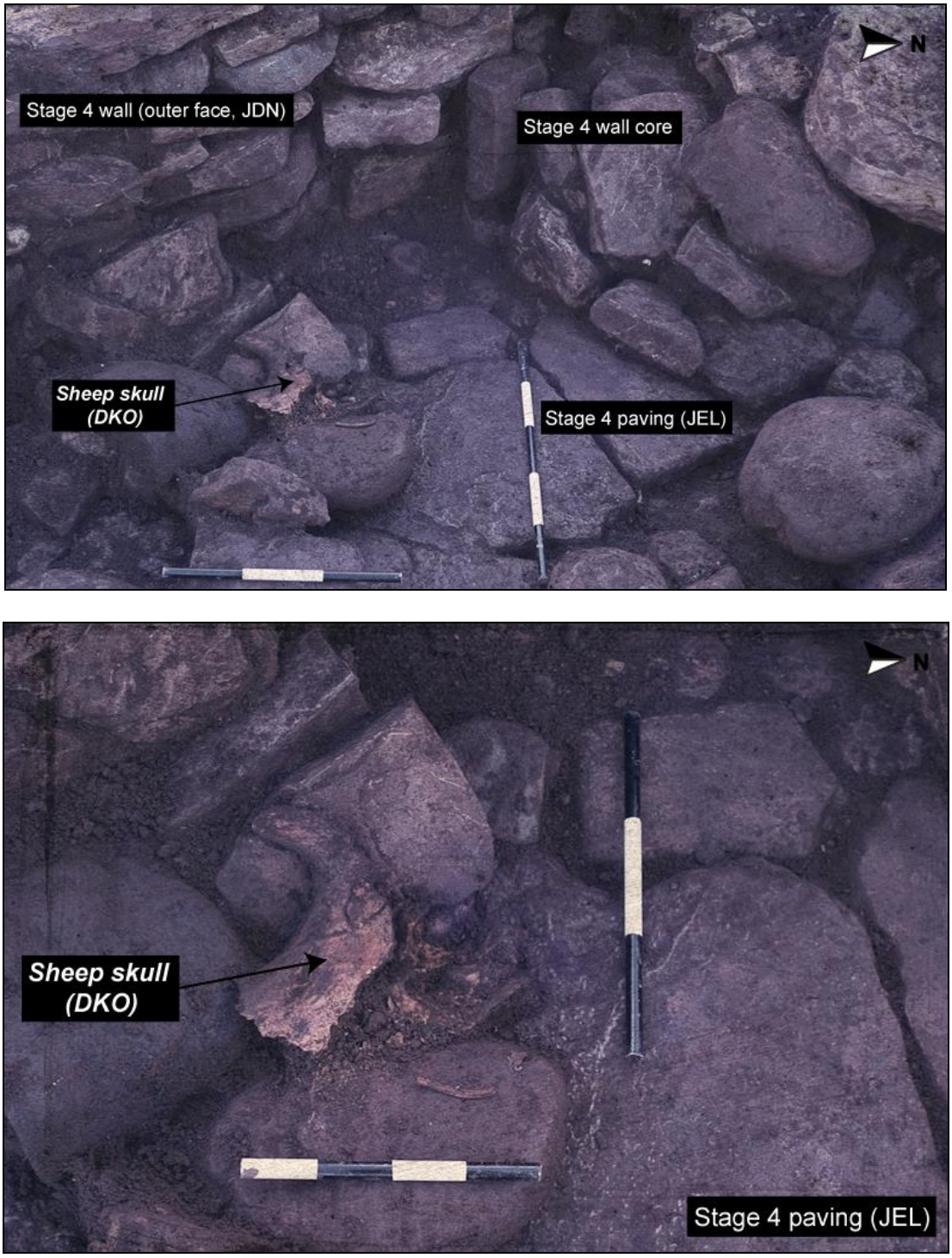


Fig. 4.48 The sheep skull (DKO) deposited between the outer (JDN) and inner (JDO) faces of the stage 4 wall (photographs: Broxmouth archive).

It is highly likely that most, if not all, of the artefacts recovered from between the stage 2/ 3 and 4 walls, were deliberately deposited, particularly since they include unusual or distinctive objects such as a the long-handled comb, gaming pieces (SF272 and SF273; Table 4.10) and human bone (frags. 14 and 19; Table 4.9); as such, they are likely to represent foundation deposits for stage 4. Since many of the artefacts appear to be well-used, they may represent the belongings of inhabitants of previous stage(s) of occupation. A conventional radiocarbon date of 370 cal. BC- cal. AD 210 (GU-1498, Table 4.12) was returned for this deposit as part of the original dating programme.

Paving

A new layer of paving (JEL) was laid down in stage 4 (Fig. 4.46), and appears to represent wholesale re-flooring, rather than repair of the existing stage 3 surface. As with the wall fabric, the stage 3 surface was predominantly left *in situ*, though some slabs appear to have been re-used in the north and east. As previously noted, the new floor was laid prior to construction of the stage 4 wall over it, though both belong to the same structural episode.

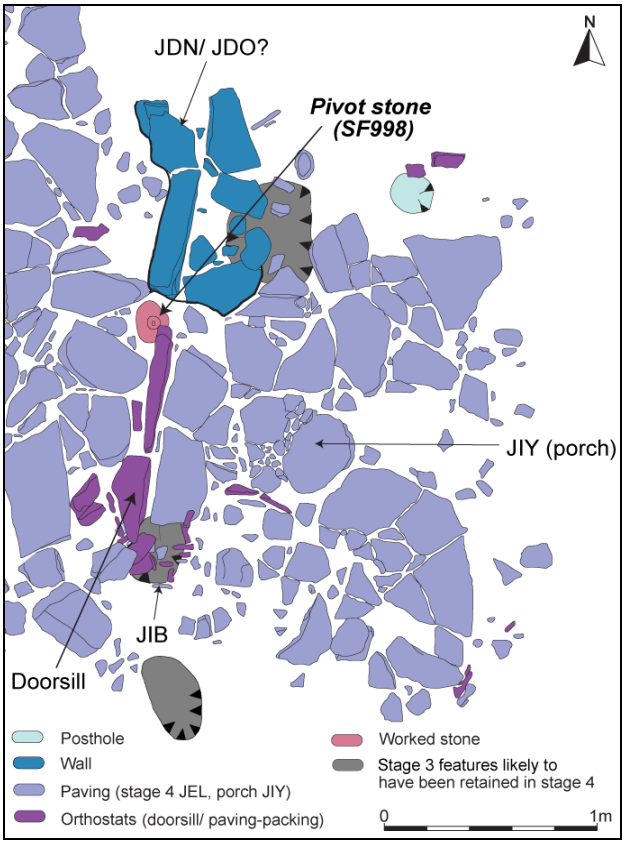
The black, ashy material deposited over the stage 3 surface prior to laying of the stage 4 floor contained several artefacts (Table 4.10), though they appear to represent craft-working debris or unfinished items indicative of midden, rather than deliberately deposited items (*contra* Hill 1995). A worked fragment of animal cranium (SF322) from this deposit returned an AMS date of cal. AD 20-140 (SUERC-33363; Table 4.12).

As with the stage 3 floor, the stage 4 paving comprised large sandstone slabs and incorporated two lower rotary querns (SF954 and SF950; Table 4.10), both having seen secondary use of their grinding faces as working surfaces, and the latter also for the sharpening of metal blades (McLaren in press, 2013). As with quern SF934 in the stage 3 floor, secondary use of quern SF954 may have taken place after its incorporation into the paving, and may account for its relatively unusual deposition of grinding face upwards, in order to create a flatter working surface. One of the stage 3 querns (SF931) would also have remained visible to the occupants of stage 4 (Fig. 4.46); or, if covered with any organic flooring, it (as with the stage 4 querns themselves) may have become periodically visible during maintenance or replacement of this material. The location of the stage 4 querns roughly mirrors the position of those in stage 3, towards the rear of the structure; whilst they do not seal any negative features, they may be referencing the relative location of the stage 3 querns, and the stage 2 features which they sealed, or indicate continuity of activity or symbolic focus in this part of the interior. In contrast to stage 3, stage 4 does not include a hearth, unless it was a supported at first floor level; this is however unlikely, given the small dimensions of the structure at this time and the lack of any apparent post-ring, unless post-pads were employed.

Entrance

Another major change in stage 4 was the abandonment of the timber porch and its replacement by an east-facing paved surface (c. 3.2m x 1.8m), raised doorsill (c. 1.2m wide) and pivot stone (SF998); the latter was located at the north-western end of the doorsill, suggesting an inward-opening door (Fig.

4.49). Posthole JIB (Fig. 4.49) may have supported the door to the south, since its packing stones protrude through the stage 4 paving; this would have resulted in a relatively narrow doorway, some 0.9m wide. There are no postholes flanking the paved porch, suggesting that it was not roofed.



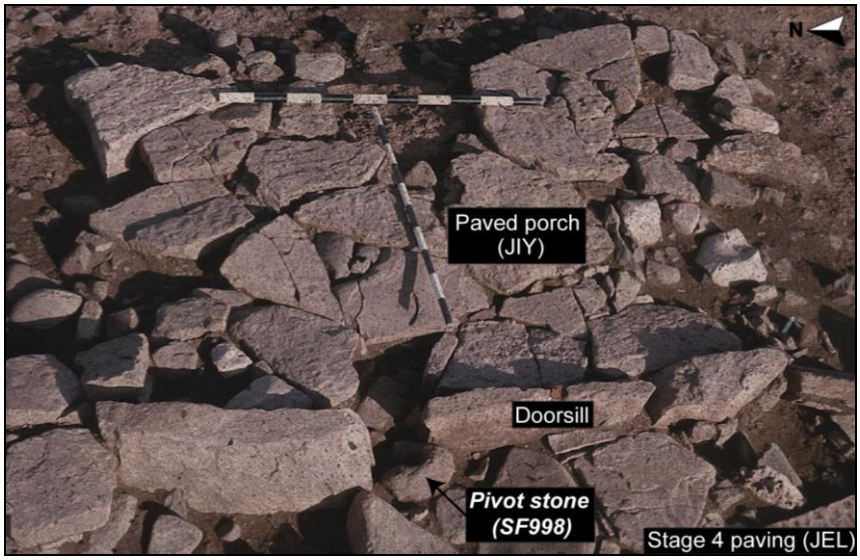


Fig. 4.49 Stage 4 paved porch (JIY) with orthostatic doorsill and pivot stone (SF998), from inside House 4 looking out (plan: copyright The Broxmouth Project; photograph: Broxmouth archive).

Patches of ‘dark soil’ extending eastwards from the porch (site book) may represent refuse swept out of the interior. It is likely that frequent sweeping was a major factor in floor erosion and the subsequent laying of paved floors, to minimise wear.

The curvilinear slot (JDJ) and associated cobbled surface (JDS) have also been associated with this stage of occupation. Despite the western terminal posthole of this slot being sealed by the paved porch (JIY), this may simply represent the relative order in which these features were cut/ constructed *within* stage 4. It is of course possible that the slot was associated with stage 3, or earlier, in which case the timber porch must have had a raised door in the east, rather than access from the north (as discussed in section 4.4.1 above). In favour of the L-shaped porch interpretation however, the slot and cobbling are here thought to belong to the stage 4 structure.

Since the slot ends abruptly, and neatly, at the House 4 entrance, and does not survive under the stage 4 porch or under the stage 3 interior paving, it is unlikely to represent the remains of an earlier timber roundhouse (*contra* Hill 1995), and perhaps more likely served as a stake-walled boundary to a yard surface extending east from House 4. Similar yards, albeit apparently demarcated by stone, rather than timber, walls, are associated with stone-walled roundhouses at Belling Law and Huckhoe, Northumberland (Jobey 1959, 241-242; 1977, 13), whilst sunken yards are a definitive feature of the ‘scooped’ and ‘rectilinear’ settlements of the Tyne-Forth region (Jobey 1960; 1962). Two stone balls (SF720 and SF732; Table 4.10) recovered from this boundary slot may have been deliberately deposited as part of the structured foundation of

this feature. A cupped stone (SF979) was also incorporated into the putative yard surface, but it is unclear whether this represents the remains of *in situ* activity or the secondary use of this artefact in a structural capacity.

Significantly, if the stage 1/ 2 porch was L-shaped in plan, this boundary would have blocked any previous access into House 4 from the north, and necessitated a change in approach from the east. This possible change in access may also have signalled an increasingly close functional and symbolic relationship between Houses 4 and 5, which at this point appear to have opened out onto the same communal yard.

4.4.5 ***Stage 5: Re-walling and partial re-paving***

Stage 5 saw the creation of a fourth and final stone wall (JDP), directly over the stage 4 paving (Fig. 4.50). This wall was straighter than those preceding it, creating a smaller and elliptically-shaped interior, with dimensions of 3.5m x 5.3m (8.2m^2); this represents less than 40% of the stage 1 footprint. The northern end of the stage 5 wall was bonded to the stage 2 wall, with the use of at least one tie-slab at a height of roughly 0.5m (Fig. 4.51); from this point, the stage 5 wall followed the line of the stage 2 wall in the north of the structure.

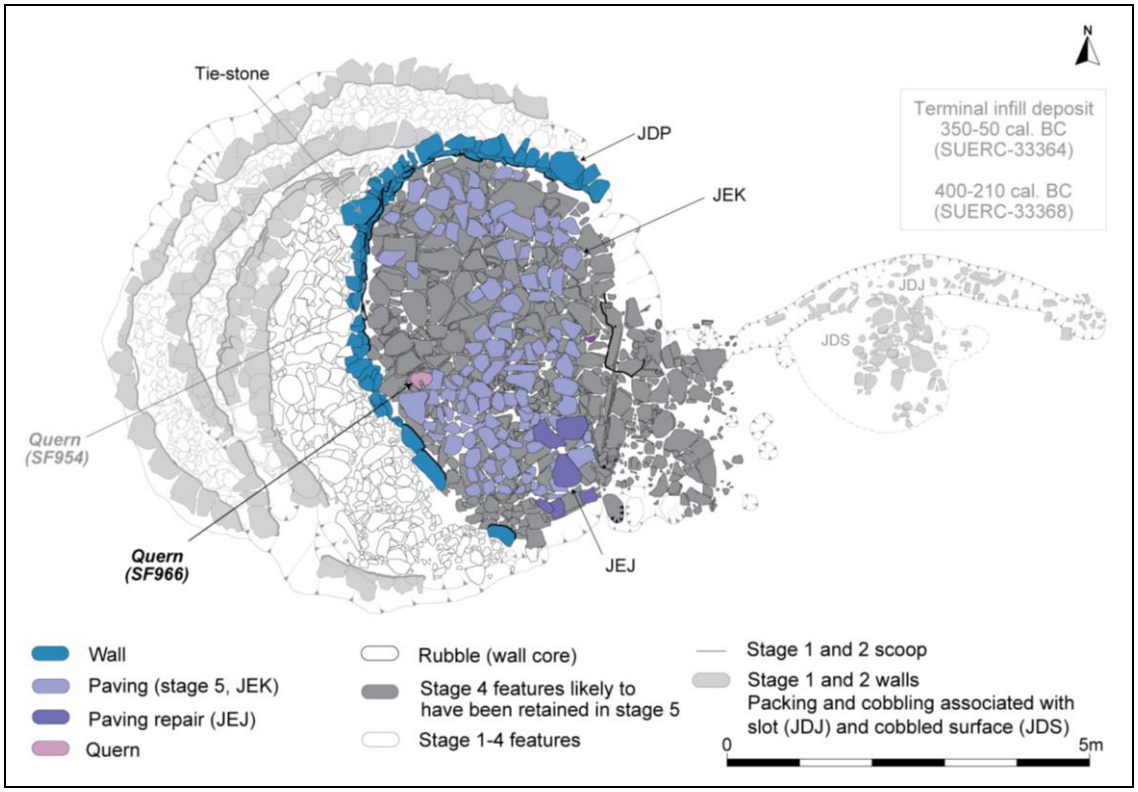


Fig. 4.50 Stage 5 features of House 4 (image copyright The Broxmouth Project)

Fig. 4.51 The tie-slab between the stage 4 and stage 5 walls (photograph: Broxmouth archive).

In contrast to the previous House 4 walls, the stage 5 wall (JDP) appears to have been variable in construction, with the southern portion described as ‘shoddy and unstable’ (Hill 1982a, 175; Fig. 4.52). The straighter line taken by this wall also resulted in a large gap (1.3m) between it and the stage 4 wall in its southern sector; whilst a greater amount of rubble was used to pack the intramural space at this point (Fig. 4.35), it is surprising that the stage 5 wall (JDP) was not double-faced, like that of stage 4, for greater stability. Given the apparent abundance of stone available for the preceding stages, and other contemporary Phase 6 structures, it is unlikely that the ‘shoddy’ nature of the stage 5 wall was the product of dwindling amounts of suitable building material. Perhaps the small and irregular internal space within House 4 was difficult to roof, and the structure had been down-graded to a non-domestic role, such as a sheltered (but unroofed) craft-working/ storage area or animal pen; if so, the stage 5 wall (JDP) would not have been required to be load-bearing and could therefore be more crudely constructed. This begs the question, however, as to why it was built at all, given the amount of internal area lost as a result. Alternatively, the ‘shoddy’ nature of the southern part of the stage 5 wall may simply represent tumbled wall-core after stone robbing of its inner face.

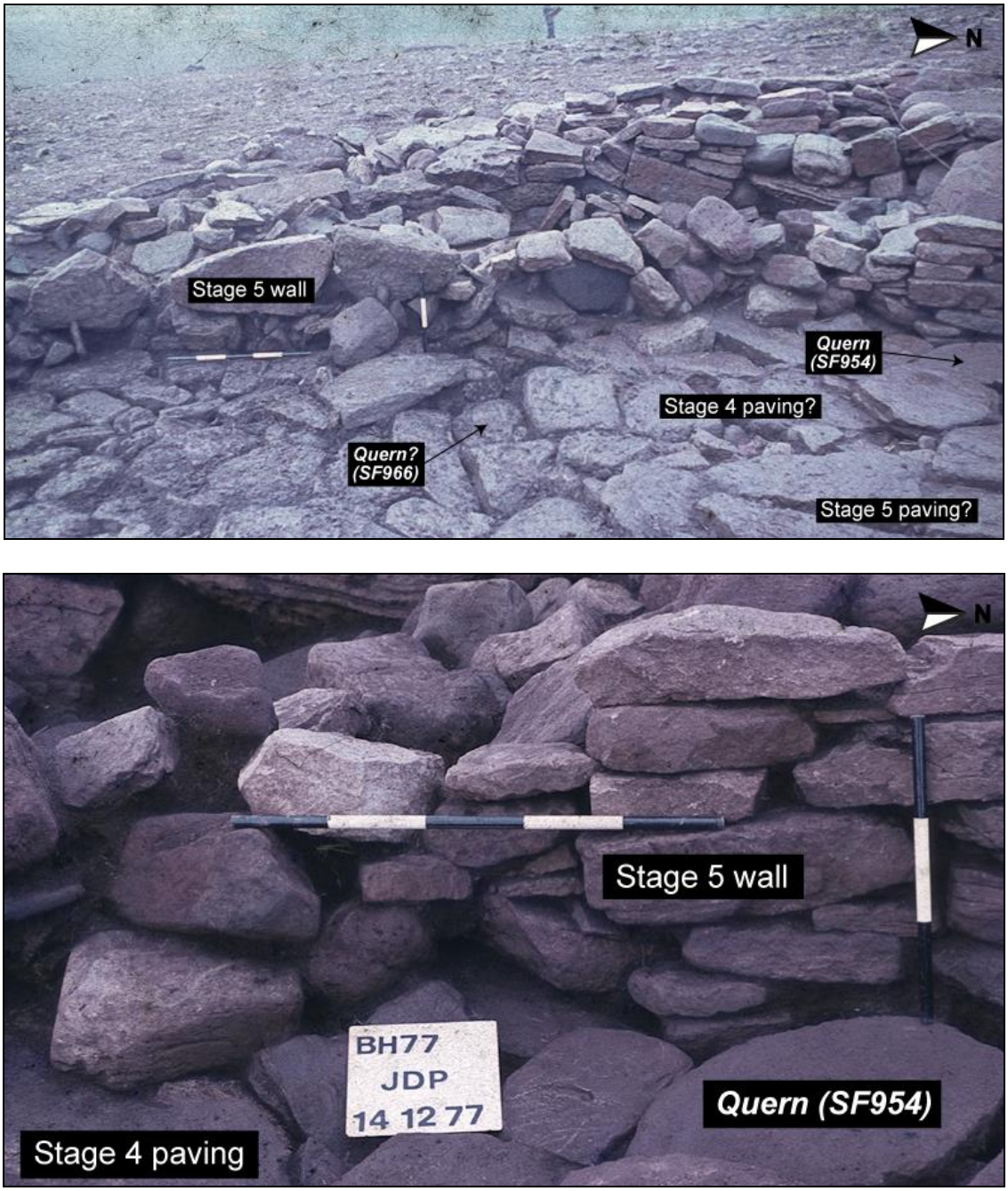


Fig. 4.52 The irregular nature of the stage 5 wall; its 'rubbly' nature in its southern sector may represent collapsed wall core material after robbing of the stage 5 wall face (photographs: Broxmouth archive).

As in the preceding stages of House 4, artefacts were recovered from between the stage 4 and stage 5 walls (Table 4.10), including an unfinished bone scoop (SF289), mirroring the position of a similar item (SF286) 'tucked under' the stage 1 wall, (Table 4.10; Fig. 5.11, section 5.2.2). A large orthostatic slab, very

similar to that used in the construction of the stage 1 wall, was also placed in front of the triangular orthostat in the stage 4 wall (JDO; Fig. 4.53), prior to infilling of the intramural space between the stage 4 and stage 5 walls. It is likely that some, or all, of these artefacts were deliberately deposited, with the bone scoop and orthostatic slab perhaps serving to mimic those of stage 1 and bracket the intervening episodes of House 4 occupation; this interpretation relies, however, on a strong continuity of memory and oral tradition across several generations of inhabitants.

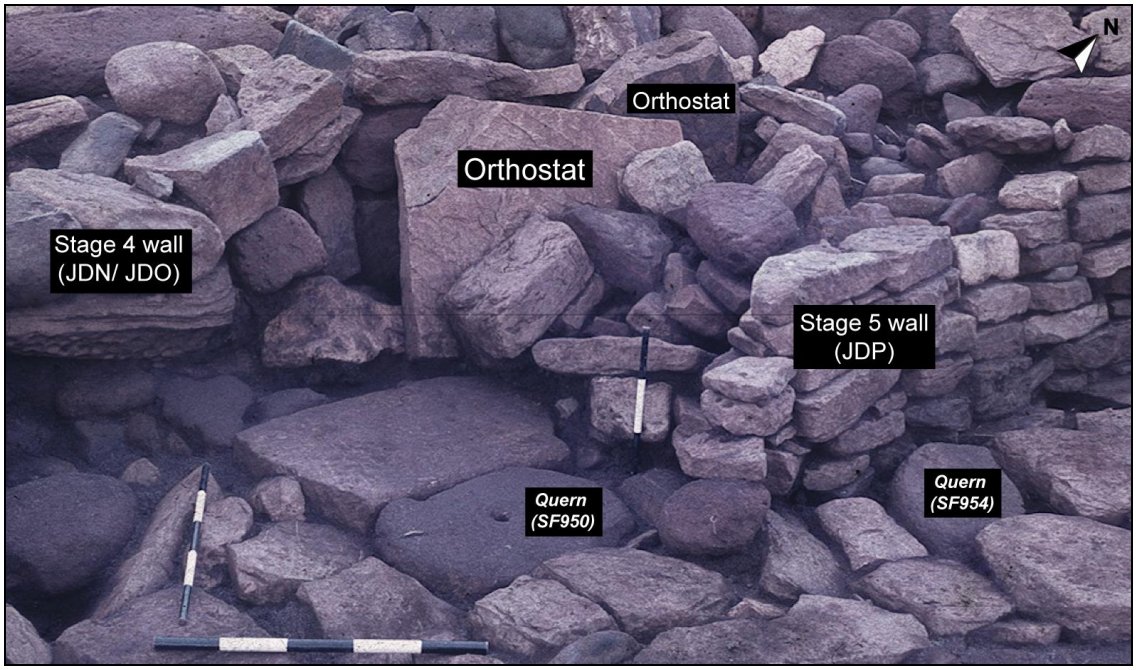


Fig. 4.53 The slab in front of the orthostat in the inner face of the stage 4 wall, prior to infilling of the intramural space between the stage 4 and 5 walls (photograph: Broxmouth archive). The size, shape and position of this slab, exactly parallels that used in construction of the stage 1 wall (Fig. 4.36).

Paving

Stage 5 also saw the re-paving (JEK) of the House 4 floor, although this surface only survives in patches (Figs. 4.50 and 4.54). Since this paving represents the uppermost surface in House 4, it is difficult to determine whether it represented

a total re-flooring of the interior which was later robbed (prior to infilling of the house-stance upon abandonment), or only ever represented *ad hoc* repair to the stage 4 floor. Descriptions of this surface as 'rubbly' (site book) perhaps add weight to the latter hypothesis; certainly, the stage 4 paved porch (JIY) and associated doorsill appear to have been retained, suggesting that parts of the stage 4 floor may also have remained in use. The stage 5 paving (JEK) included a single, unfinished rotary quern stone (SF966) located towards the rear of the interior, paralleling the relative position of querns in the previous floor surfaces, though now obviously much further east in absolute terms. A stage 4 quern (SF954) also appears to have remained visible at this time, at least prior to the laying of an organic floor covering, if such existed.

Fig. 4.54 The 'rubbly' nature of the stage 5 wall and paving; the paving may represent only a partial re-flooring or may be the result of stone robbing (photograph: Broxmouth archive).

Partial re-paving

Several stones (JEJ) which appear to overlie the stage 5 paving (JEK) are recorded on plan (Fig. 4.50), in the south of the structure, but they are too few to suggest a fourth paved surface, or even repair to the existing floor. They may simply represent collapsed wall facing or wall-core, or disturbed slabs from previous floor surfaces.

4.4.6 ***Stage 6: Abandonment***

After abandonment of House 4, the house-stance became infilled (Fig. 4.55), although it is not clear over what time span this took place. A deposit of 'greenish' material containing 'large quantities of bone and marine shell' in front of the stage 5 wall (JDP) may represent the deliberate deposition of midden material generated during stage 5 occupation as a structured closure deposit, or signal the use of the abandoned roundhouse as a more general midden store.

The infill deposits for House 4, as with the majority of the Phase 6 roundhouses, are not well recorded. The lowermost levels are however described as freer of stones than the uppermost (site book), suggesting that the walls may have remained standing for a considerable time after abandonment and were not significantly destabilised by excessive robbing or levelling; nevertheless, a saddle quern (SF925; Table 4.11) found in this material may originally have been incorporated into one of the House 4 walls.

Fig. 4.55 Rubble infill of House 4 (photograph: Broxmouth archive)

AMS dates of 350-50 cal. BC (SUERC-33364) and 400-210 cal. BC (SUERC-33368; Table 4.12) suggest the presence of, at least some, earlier material in the infill deposit. This material may have derived from the collapse of freestanding parts of the stage 1 wall above the scoop, from collapse of any other parts of the House 4 walls (if redeposited material was used to infill the intramural spaces), *ad hoc* incorporation of earlier material into the infill deposits after abandonment of House 4, or the deliberate incorporation of earlier material into infill deposits during the structured abandonment of this long-lived building.

Many artefacts were recorded from this terminal infill deposit (Table 4.11). Some of the more recognisable artefacts may likewise have been deliberately deposited as part of the structured abandonment of House 4, whilst others may simply represent part of the midden which accumulated within, or was used to deliberately infill, the house-stance.

4.4.7 ***Artefacts***

Stage	Feature	Context		Artefact type	Find no.	Artefact description
1	Wall	JDL	Under (01)	Worked bone	SF286	Scoop: unfinished, pointed handle, chevron at scoop/ shaft junction
			Behind (tumble?)	Worked stone	SF1009	Hollowed: double-sided mortar
1(-3)	Entrance posthole	JKA01		Quern (Rotary)	SF924	Upper (bun-shaped, c. 15%): defaced. Fine-grained micaceous, carboniferous sandstone.
2	Poss. entrance furniture	JIK01		Stone ball	SF789	Unfinished, faceted. Sandstone.
2(-3)	Wall	JDM		Pottery	V120	1 rim (rounded), 1 base (flat) (Type 1?)
				Quern (Saddle)	SF927	Saddle. Carboniferous basalt (Jedburgh-type).
					SF907	Saddle?: no remaining grinding face. Medium-grained carboniferous micaceous sandstone.
					SF924	Saddle: two spalls detached from perimeter. Dolerite.
2	Between walls (wall core)	JDL/ JDM02		Pottery	V122	1 rim (incurved), 1 body: coil-constructed, grass impressions, sooted (Type 1)
2	Pit	JIS	JIS01	Worked bone	SF309	Toggle/ fastener/ bobbin: slight polish
				Worked antler	SF274	Gaming piece (frags.): antler pedicle dome, outer surface highly polished; lightly charred
				Worked stone	SF975	Mortar/ cupped (c. 1/3): burnt. Fine-grained micaceous felspathic carboniferous limestone.
			N/A	Worked stone	SF974	V-profile cups: roughly dressed, peck-marks. Medium-grained carboniferous sandstone.
		JIW/ JIX (posthole)		Pottery	V120	1 rim (rounded), 1 base (flat) (Type 1?)
		JJG		Worked bone	SF250	Splinter point: flat, square head, blunt point, worn and polished
3	Paving	JEM	Seals JJH/ JID	Worked stone	SF1008	5-sided, hollows pecked into two opposing faces. Sandstone.
			N/A	Quern (Rotary)	SF931	Upper (bun-shaped, mostly complete): horizontal handle-socket replaced, poss. deliberately de-faced. Coarse-grained sandstone, limpet hollows. Deposited grinding face down.
					SF937	Upper stone (disc-shaped): re-used as lower stone. Vertical handle-socket replaced horizontal socket, possibly re-dressed. Secondary spall detached from handle-socket may have put quern out of use. Medium-coarse-grained carboniferous sandstone.
			Seals pit JIS	Quern (Rotary)	SF941	Upper (disc-shaped, c. 45%): horizontal spindle-socket, edges lost, quartz crystal in feeder-pipe polished. Coarse-grained micaceous, carboniferous sandstone. Deposited grinding face down.
					SF934	Upper (bun-shaped, 2 joining frags.): decoration around feeder-pipe. Handle-socket replaced. 7 grooves from re-use as sharpener. Medium-coarse-grained carboniferous sandstone. Deposited grinding face down, incisions up.
3	Hearth	JIU02		Worked bone	SF254	Splinter point: heavy, abraded to shape, use-polish

Stage	Feature	Context		Artefact type	Find no.	Artefact description
3/ 4	Between walls (wall core)	JDM/ JDO		Pottery	V117	2 base (flat), 1 rim (flat-topped), 3 body, 1 frag. + 1 rim (inverted, same vessel?): coil-constructed, grass impressions, sooted (Type 2)
		JDM/ JDN		Worked bone	SF178	Flat-topped pin
				Worked antler	SF272	Gaming piece: antler pedicle dome, surfaces highly polished; probably deliberate charring
					SF273	Gaming piece (frag.): antler pedicle dome, surfaces smooth, highly polished. Corrosion implies iron inserted into convex face- to demarcate a distinctive piece? Lightly charred.
	Between wall faces	JDN/ JDO		Worked bone	SF171	Needle: modified after breakage
				Worked antler	SF465	Undiagnostic frag.: broken beam, no surviving tool-marks
					SF186	Long-handled comb (textile-working): 8 teeth- 3 lost, 2 original length, 2 broken but worn suggesting continued in use. Atlantic Scottish parallels.
	Between paved floors	JEL/ JEM		Worked bone	SF268	Splinter point
					SF322	Debris; animal cranium frag., trimmed to form slab
				Worked antler	SF488	Debris (spall)
					SF290	Unfinished peg
					SF492	Debris (spall)
				Worked stone	SF1015	Smoother/ pounder: pecked facet from use as pounder, staining/ light sheen from use as smoother. Silurian greywacke?
					SF1017	Hone (also smoother): staining suggests use as smoother. Opposite edge fractured, poss. sooting, suggests heat exposure. Silurian greywacke?
4?	Slot (fence-line?)	JDJ	P'hole (02)	Worked antler	SF282	Mount: broken, perforated
			01	Stone ball	SF732	Oval, large. Only example manufactured from gritty sandstone.
					SF720	Spherical. Sandstone.
	Cobbled (yard?) surface	JDS02		Worked stone	SF979	Cupped stone: (3 frags.): interior pitted from use. Carboniferous fine grained sandstone.
4	Paving	JEL		Quern (Rotary)	SF954	Lower (c. 45%): secondary use as working surface. Carboniferous sandstone with shell and crinoid inclusions, poss. limpet hollow. Deposited grinding face up.
					SF950	Lower (complete): evidence for secondary use as a working surface and for sharpening metal blades, basal spall removed for stability. Medium-grained carboniferous sandstone, limpet hollows. Deposited grinding face down.
	Door furniture	JEL/ JIY (overlies JIA)		Worked stone	SF998	Hollowed (pivot stone): Spall detached from upper surface, via post rotation? Sandstone.
5	Between walls (wall core)	JDO/ JDP		Worked antler	SF199	Handle: antler cylinder sawn at both ends and perforated
				Worked stone	SF996	Hollowed: base flattened for stability.
					SF997	Hollowed: rectangular with squared sides.
	Wall	JDP		Worked bone	SF289	Scoop: unfinished, rectangular scoop tapering to pointed handle
	Paving	JEK		Quern (Rotary)	SF966	Unfinished (beehive); prob. broken during spindle socket manufacture, poss. remains of feeder-pipe, poss. limpet hollow. Coarse-grained carboniferous sandstone. Deposited grinding face down.

Table 4.10 Stratified artefacts recovered from House 4

Stage	Deposit	Context	Artefact type	Find no.	Artefact description
6	Infill (JAB)	01	Iron	SF587	Fine bar frag.
		02	Worked stone	SF972	V-profiled cups. Medium-grained, carboniferous red sandstone.
			Quern (Saddle)	SF925	Saddle. Quartz dolerite.
			Pottery	V111	1 rim (inturned): sooted (Type 2)
				V112	1 base (walls curves out) (Type 2)
				V113	1 body (Type 2)
				V114	1 body (Type 2)
			Worked bone	SF237	Spearhead: poss. broken from shaft in use
			Worked antler	SF347	Debris: beam broken, tines sawn and split
				SF499	Mount?: outer surface trimmed, charred.
				SF275	Handle?: broken, decorated, finger-grips?
				SF276	Mount (frag.): knife-incised saltire motif
				SF341	Socket- intended as tool head/ fitting?
				SF418	Discarded antler tine
				SF402	Tine-beam junction off-cut
		03		SF420	Handle roughout: sub-rectangular socket
			Pottery	V115	1 body: sooted (Type 1)
			Worked bone	SF270	Fine splinter point: polish from use
		04	Pottery	V116	2 body: grass impressions
6?	Likely infill?	N/A	Worked bone	SF232	Heavy-shafted point (roe deer tibia?): burnt

Table 4.11 Artefacts recovered from terminal infill deposit (stage 6) of House 4

4.4.8 ***Chronology***

Eight samples were submitted for AMS dating from House 4 (Table 4.12), including the human cranial fragment (14). Two conventional radiocarbon dates were also available from the original dating programme.

Stage	Context	Lab code	Sample	Date (BP)	Date (cal., 95.4%)
1/ 2	Between walls (JDL/ JDM)	SUERC-33361	Cattle bone	2085±30	200-1 cal. BC
		SUERC-33362	Cattle bone	2100±30	210-40 cal. BC
2	Pit (JIS)	SUERC-33359	Animal bone	1895±30	cal. AD 50-220
		SUERC-33360	Animal bone	2255±30	400-200 cal. BC
3	Beneath hearth (JIU)	GU-1206	-	2100±30	380 cal. BC- cal. AD 210
3/ 4	Between paving (JEL/JEM)	SUERC-33363	Animal bone	1915±30	cal. AD 20-140
	Between walls (JDM-JDN/ JDO)	SUERC-24259	Human bone (frag. 14)	1970±30	50 cal. BC- cal. AD 90
	Under wall (JDN/ JDO)	GU-1498	-	2035±100	370 cal. BC- cal. AD 210
6	Terminal infill (JAB)	SUERC-33364	Horse bone	2135±30	350-50 cal. BC
	Terminal infill (JAB02)	SUERC-33368	Sheep/goat bone	2270±30	400-210 cal. BC

Table 4.12 AMS, and conventional radiocarbon (blue shading), dates for House 4 (after Hamilton *et al* in press, 2013).

The AMS dates for stages 1/ 2 of House 4 appear to confirm the pre-Roman use of stone-walled architecture at Broxmouth, though they prompt further questions regarding the motives behind the adoption of this construction technique.

Whilst the large date ranges cannot provide an exact use-life for each stage in House 4, an average use-life for each can be estimated by dividing the approximate use-life of the structure by the number of developmental stages (in this case, five). If we assume that the date range of *225-310 years* (*68% probability*; Hamilton *et al* in press, 2013), for the likely duration of the Phase 6 settlement, equates roughly with that of House 4, then this structure was substantially modified, roughly every 40-60 years, or about every 1 or 2 generations; this may represent the generational turnover of a nuclear family of parents and their children. AMS dates could not be modelled for House 4 specifically but were included in the modelling of the likely date and duration of the Phase 6 settlement more generally (Hamilton *et al* in press, 2013).

4.5 **House 5**

House 5 is located directly south (0.5m max.) of House 4 (Fig. 4.56), but is much more extensively plough damaged. By the end of its developmental history, House 5 was of similar morphology to Houses 4 and 7, but it began life as a fully-timber structure and underwent fewer stages of modification.

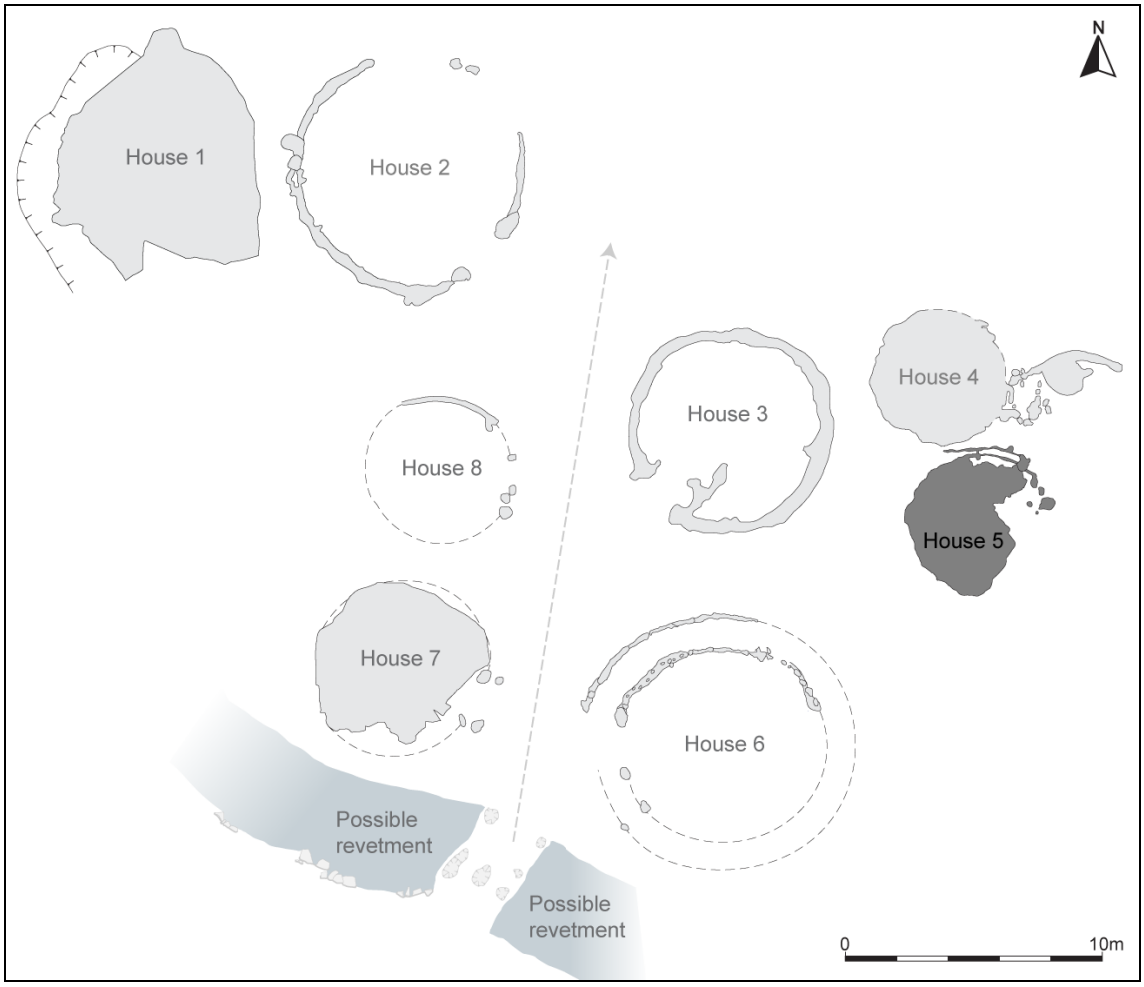


Fig. 4.56 Schematic plan showing the relative position of House 5 in the Phase 6 settlement at Broxmouth (image copyright The Broxmouth Project).

4.5.1 ***Stage 1: Double ring-groove timber roundhouse***

Wall

House 5 began life as a fully-timber roundhouse represented by two, partial, concentric ring-grooves (JAD, JAE), and several flanking postholes (JAF, JBO, JHF and JEH), in the north of the structure (Fig. 4.57); these possibly represent a composite timber wall of both closely-set stakes, and hurdle-work supported between larger posts. The projected diameter of the ring-grooves is 9.7m (outer, JAD) and 8.2m (inner, JAE), giving a total area of c. 74m^2. The concentric nature of the ring-grooves suggests that they are contemporary and do not represent successive timber structures, although truncation of much of the stage 1 roundhouse by the stage 2 scoop makes this difficult to confirm. Perhaps the double-wall was designed to provide greater structural stability or to enable the intramural space to be packed with an insulating material; certainly, it was too narrow (0.3m max., in its surviving part) to allow for circumambulation, as in House 6.

A posthole (JEB) at the north-east terminus of the inner ring-groove (Fig. 4.57) may represent a north-east facing entrance (retained in stage 2), although a posthole (JEC) in the centre of this putative entrance, and the absence of an opposing southern terminal, are caveats to this interpretation. Indeed, even if pit/ posthole JDW functioned as the opposing terminal, this would have created a relatively narrow entrance only 0.72m wide. Some sort of entrance in this area would, however, seem likely given, the close physical and chronological relationship between Houses 4 and 5 and the possible communal yard (JDS; Fig. 4.43).

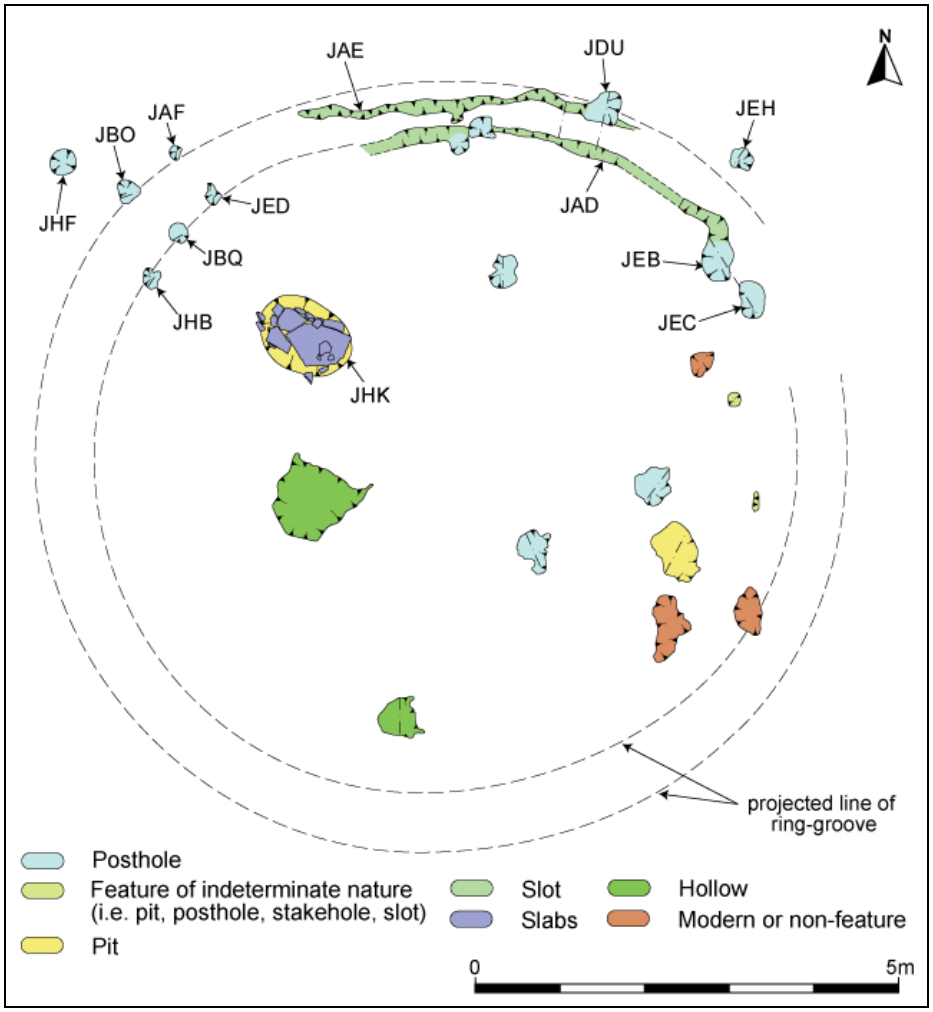


Fig. 4.57 Stage 1 features of House 5 (plan: copyright The Broxmouth Project; photograph: Broxmouth archive). Since the house is fully-excavated in the photograph, the stage 2 entrance features are visible (bottom).

Internal features

House 5 has relatively few internal features, and assignment of any of them to a definitive stage of construction is difficult. Many are severely truncated and whilst they may represent stage 1 features truncated by the stage 2 scoop, they may equally be associated with an early, unpaved episode of stage 2, disturbed by laying of the later paved surface; the former is assumed here due to the severity of truncation observed (Fig. 4.57). Some features represent posthole bases, whilst others are too shallow to determine their exact nature, perhaps representing natural hollows into which the later paved surface subsided. Some appear to represent animal disturbance. None of the stage 1 features yielded any artefacts, perhaps partly due to the severity of their truncation.

House 5 displays no convincing post-ring, suggesting that the rafters were supported on a wall-plate. It is possible that some form of composite roof, at least at thatch height, spanned Houses 4 and 5, since they are too closely spaced to allow for two independent sets of eaves.

Two pits (JHK and JHC) are located in the north-west and south-west of the interior respectively. The former is flag-lined (Fig. 4.58), and both are infilled with clay. It is possible that this material was integral to the function of the pits, in clay or daub processing for example, but it is perhaps more likely to have served as a firm foundation for the subsequent paved floor.

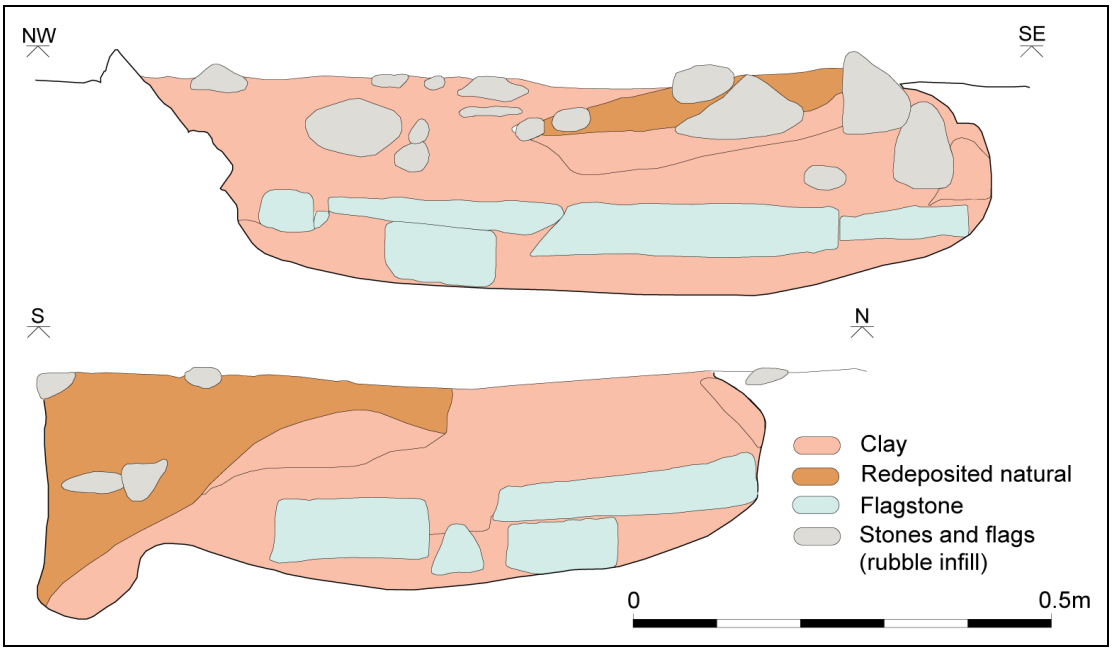


Fig. 4.58 Stage 1 pit (JHK; section: copyright The Broxmouth Project; photograph: Broxmouth archive)

4.5.2 ***Stage 2: Scooped, walled and paved roundhouse***

Scoop

Stage 2 sees House 5 transformed into a stone-walled, paved roundhouse (Fig. 4.59). The scoop, which has a projected diameter of 8.3m (54m^2), appears to have been shallower (average 0.3m deep, max. 0.5m deep; Fig. 4.60) than those of Houses 4 and 7, and has suffered severe plough truncation in the south and east as a result. The scoop follows the line of the stage 1 ring-grooves, suggesting that the timber roundhouse was still standing, or its footprint still visible, when stage 2 was constructed. The scoop appears to have truncated the stage 1 structure elsewhere in its circuit however, suggesting against the association of the timber wall with the stage 2 roundhouse.

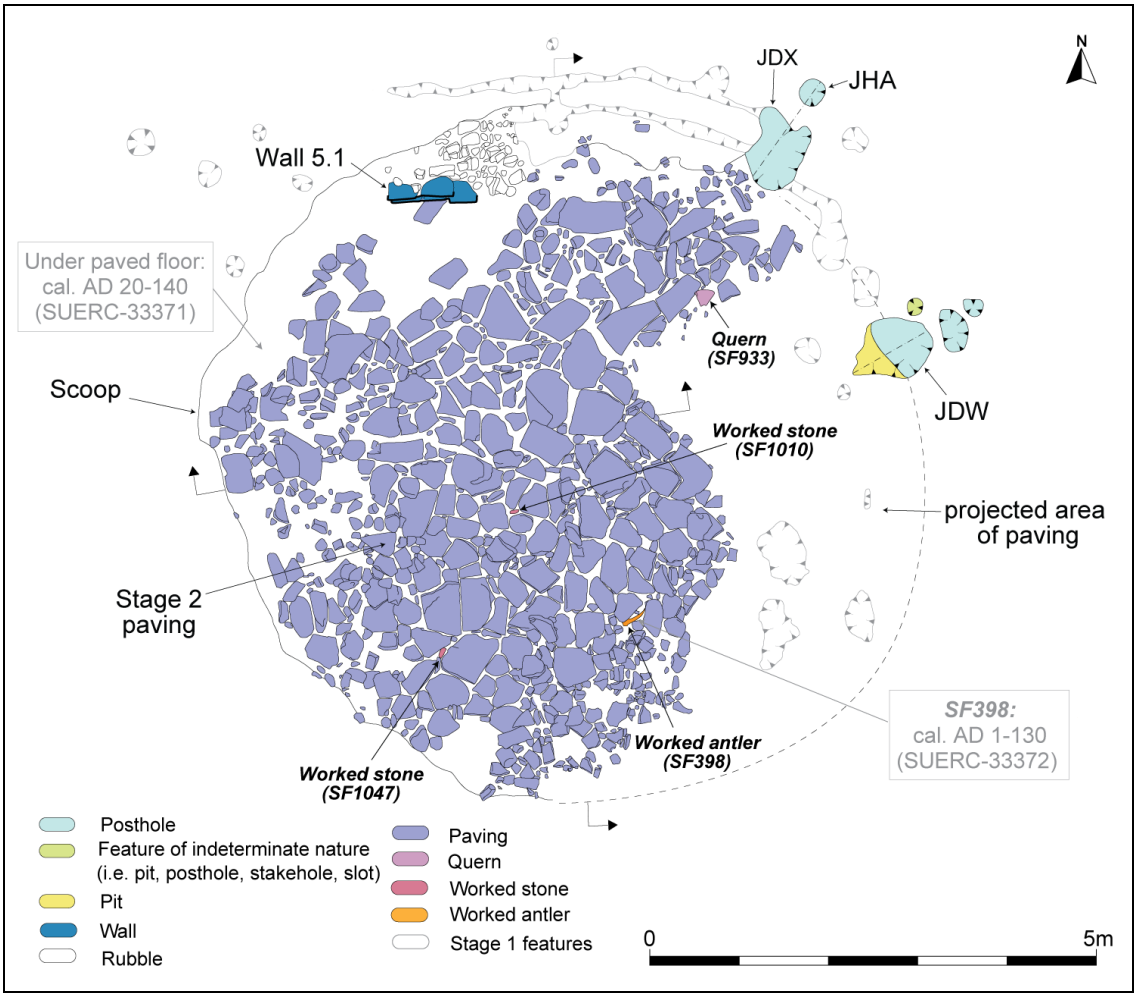


Fig. 4.59 Stage 2 features of House 5 (plan: copyright The Broxmouth Project; photograph: Broxmouth archive).

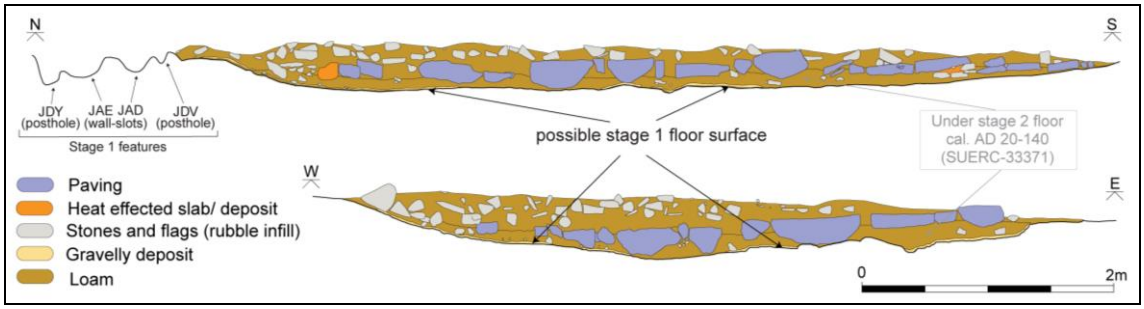


Fig. 4.60 Long sections through House 5 showing the stage 2 scoop and paved surface (image copyright The Broxmouth Project). It is possible that thin deposits of gravel underlying the slabs represent the remains of an earlier floor surface, or bedding material for the stage 2 slabs.

Wall

The stage 1 wall (5.1; Fig. 4.61) survives only in the north-west, where it measures two courses (0.7m) deep and c.1m long. This wall is relatively straight, suggesting that, like the stage 1 wall (JDL) in House 4, it may have been constructed in sections. It is set 0.3m inside the edge of the scoop, with the intervening space infilled with rubble; the rafters may have been supported on this rubble matrix, if not bedded into the ground surface behind the scoop.

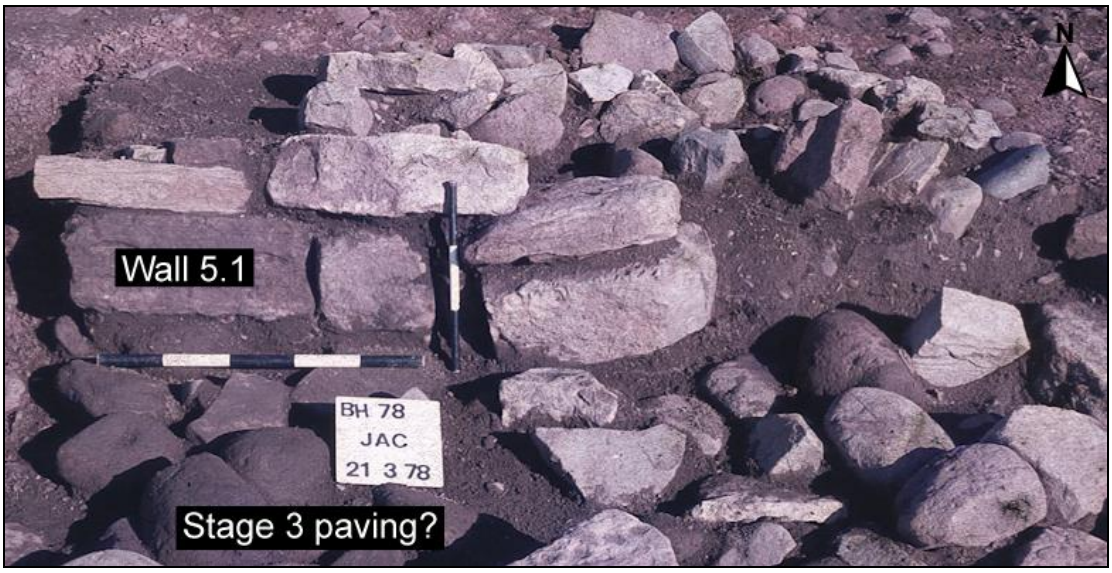


Fig. 4.61 The surviving section of stage 2 wall (5.1), with rubble packing visible behind (photograph: Broxmouth archive).

Entrance

As in stage 1, two posthole complexes (JDX and JDW; Fig. 4.59), which show evidence of re-cutting and replacement, indicate a north-east facing entrance (2m wide). This entrance may have been orientated in order to front onto the yard east of House 4 (Fig. 4.43), adding weight to the interpretation that it was a communal space shared by these buildings, and thus indicating a close social or functional relationship between them. Small features (JHA and unlabelled features north-east of JDW) flanking the larger entrance postholes may represent a short porch.

Paving

The stage 2 paving was of variable construction, with large flat sandstone slabs in the centre and smaller, more cobble-like, stones towards the edges. As in Houses 4 and 7, a quern fragment (SF933), together with a hollowed stone (SF1010) and a stone pounder (SF1047), were incorporated into this surface, perhaps as foundation deposits (Fig. 4.59; Table 4.13).

Whilst it is possible that the 'kidney-shaped' area of paving represents the original extent of this floor surface, the area immediately inside the entrance, which is likely to have seen greatest use-wear, is void of slabs but uneroded, suggesting their former presence. It is possible that this area was robbed of slabs after the abandonment of House 5, particularly given the neat edge to the surviving surface; certainly, the entrance area appears to have been slightly raised (site book), and thus perhaps more accessible for later robbing. Meanwhile, the notable absence of slabs in the south and east of the interior

also suggests plough truncation. Thus, whilst no hearth is visible in the surviving paving, it is possible that an off-centre feature in the south or east has not survived.

The paved floor appears, in the main, to have been laid directly onto the floor of the scoop (site book), although thin deposits of gravel (Fig. 4.60) could suggest an earlier truncated floor surface or foundation layer. A partly worked antler beam (SF398; Fig. 4.62; Table 4.13) was deposited on the floor of the scoop prior to laying of the paved surface, and may represent a structured foundation deposit for stage 2. This artefact (SF398) returned an AMS date of cal. AD 1-130 (SUERC-33372), whilst a cattle radius from a similar context returned an AMS date of cal. AD 20-140 (SUERC-33371; Table 4.14).

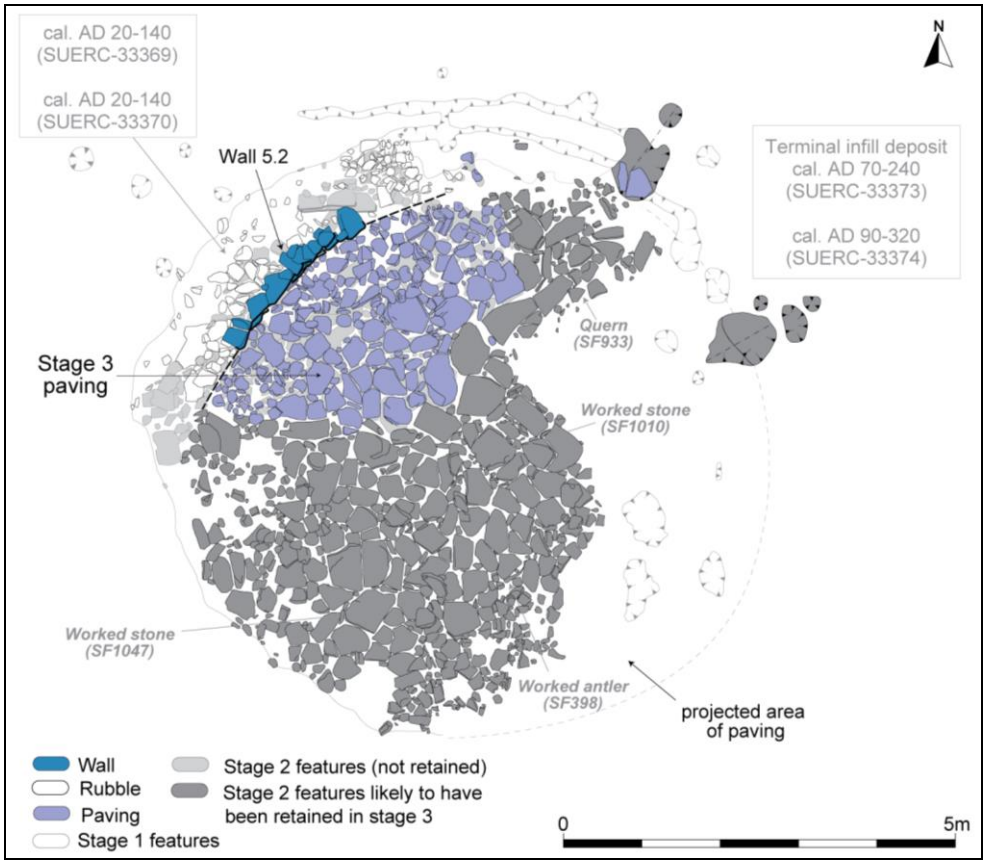
Fig. 4.62 The partly worked antler beam (SF398) which was deposited on the floor of the stage 2 scoop prior to the laying of the paved surface, and possibly representing a structured foundation deposit for this stage of occupation (photograph: Broxmouth archive).

4.5.3 ***Stage 3: Re-walling and partial re-paving***

Stage 3 saw the construction of a second wall (5.2; Fig. 4.64) inside, and on a slightly different alignment, to the first (Fig. 4.63). As in stage 2, this wall is single-skinned, and survives only in the north-west, as a roughly 2.5m long curving section of masonry, two or three courses (0.7-0.8m) high (based on the photograph in Fig. 4.63, bottom). Its projected circumference results in a slightly diminished internal area of roughly 49m^2 (7.5m x 8.3m), mirroring the developmental trajectories of Houses 4 and 7. As in stage 2, the space behind this wall was packed with rubble, which contained large quantities of limpet and winkle shell (site book). Identical AMS dates of cal. AD 20-140 (SUERC-33369 and SUERC-33370) were returned for this deposit (Table 4.14).

Unlike Houses 4 and 7, the stage 2 wall was not retained, and may have been dismantled prior to, and perhaps re-used in, construction of stage 3. Since stone was presumably still plentiful at this time (House 4 undergoes several further stages of remodelling with the retention of earlier fabric), different social factors may have been at play. The close correspondence of the stage 3 wall with the stage 2 scoop may, for example, have been considered adequate for preservation of the stage 1 structural footprint, without retention of its fabric; this may also explain the, at least partial, respecting of the stage 1 ring-grooves by the stage 2 scoop.

As in the previous stages, the north-east entrance orientation appears to have been retained, albeit with slight modification (e.g. slabs apparently overlying posthole complex JDX; Fig. 4.63).



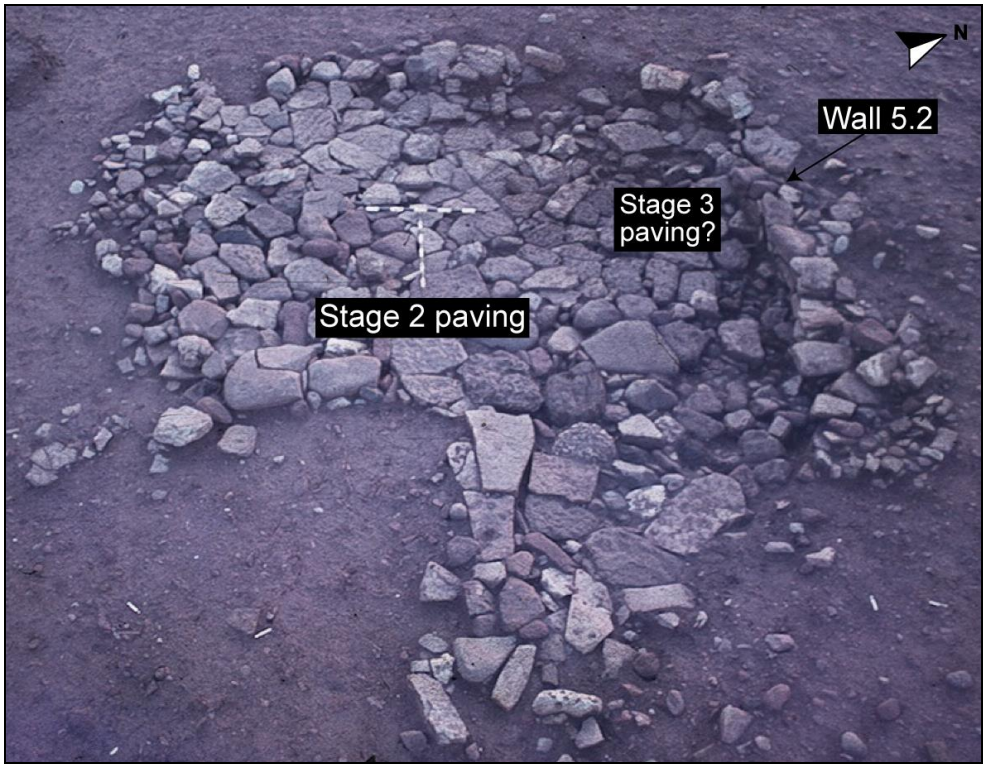


Fig. 4.63 Stage 3 features of House 5 (plan: copyright The Broxmouth Project; photograph: Broxmouth archive). Wall 5.2 does not survive on any plan or section in the archive and has been represented above on comparison with site photographs.

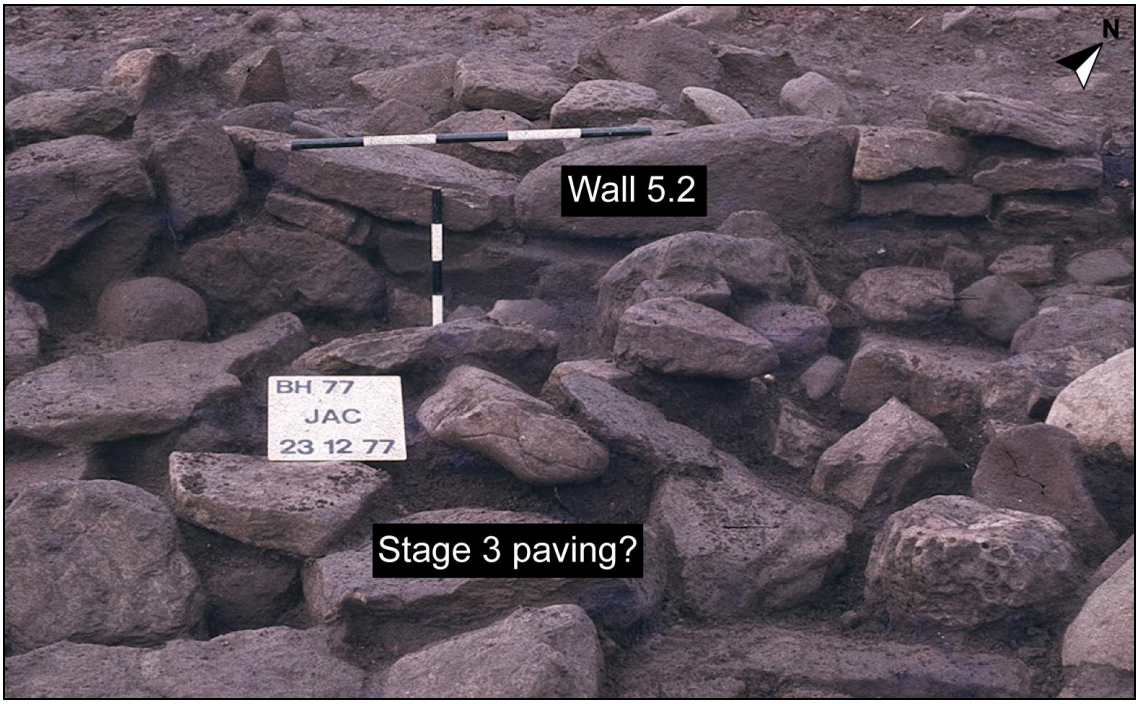


Fig. 4.64 Part of the surviving section of the stage 3 wall (5.2; photograph: Broxmouth archive)

In contrast to the stage 2 wall, the stage 2 paving appears to have been re-used in stage 3. A new layer of paving in the far north-west of the structure (Fig. 4.63) appears to represent a discrete area of repair or maintenance rather than a total re-flooring; whilst later robbing could have removed parts of an, originally more extensive, surface, it might be expected to have survived, at least partially, over a greater area if this were the case. As in stage 2, there was no evidence for a formal hearth in stage 3. A conventional radiocarbon date of cal. AD 120-430 (GU-1069) was returned for a ‘midden’ deposit overlying this floor surface, and thus perhaps represents a *terminus ante quem* for stage 3 occupation (Table 4.14).

4.5.4 ***Stage 4: Abandonment***

The terminal infill deposits of House 5 are not recorded in detail, but appear to comprise layers of dark soil containing charcoal fragments; it is unclear whether this material represents the deliberate infilling of this structure immediately post-abandonment, or the use of the scooped stance as a midden dump over a more protracted period. It is possible that the charcoal relates to some conflagration of the structure at the end of its use-life (indeed, a single heat-effected paving slab is record in section; Fig. 4.60), but it is perhaps more likely that it derives from occupation debris which formed part of the midden with which House 5 was infilled. Several large slabs within the infill of House 5 suggest a degree of structural collapse, though again, it is not clear how long after abandonment this occurred. AMS dates of cal. AD 70-240 (SUERC-33373) and cal. AD 90-320 (SUERC-33374) were returned for this terminal deposit (Table 4.14), suggesting that, unlike House 4, it comprised material generated at the time of House 5 occupation, perhaps by the House 5 inhabitants themselves.

4.5.5 ***Artefacts***

Many of the artefacts from House 5 are recorded to general layer codes, suggesting that they derive from the infill deposits; indeed, the nature of many of these artefacts (e.g. single pottery sherds, bone and antler-working debris) suggest that they formed part of the midden used to infill the house-stance, rather than more deliberately deposited objects.

Stage	Feature	Context	Artefact type	Find no.	Artefact description
2	Under paving	N/A	Worked antler	SF398	Early stages: marks- working surface?
	Paving (Fig. 4.59)	JAC02	Quern (Rotary)	SF933	Upper (disc-shaped, c. 20%): poss. low bun / bun-disc hybrid, defaced, secondary use- for finishing/ sharpening bone points?
		JAC03	Worked stone	SF1010	Hollowed (2 indentations)
				SF1047	Pounder/ rubbing stone: facets from pounding, abraded/ polished from use as rubbing stone, at angle.
4	Terminal infill	JAC02	Worked bone	SF255	Splinter point (expedient)
				SF304	Misc.: perforated, function unclear, parallels elsewhere
				SF247	Splinter point (broken)
			Worked antler	SF361	Prepared strip
				SF454	Prepared segment: strip?
				SF451	Prepared strip
				SF453	Prepared strip
			Iron	SF560	Nail: rectangular-sectioned, domed head
		JAC03	Pottery	V123	1 rim (flat): sooted
				V124	1 rim (tapered): coil-constructed, sooted (Type 2)

Table 4.13 Artefacts recovered from House 5

4.5.6 ***Chronology***

Six samples were AMS dated from House 5 (Table 4.14), in addition to a single conventional radiocarbon date from the original dating programme. Whilst poor contextual recording made specific associations between samples and features difficult, the AMS dates returned for House 5 are the most closely corresponding and sequential of those from any of the Phase 6 structures.

Stage	Context	Lab Code	Sample	Date (BP)	Date (cal., 95.4%)
1/2	Under paving	SUERC-33371	Cattle bone	1910±30	cal. AD 20-140
		SUERC-33372	Worked antler (SF398)	1930±30	cal. AD 1-130
2/3	Between wall and scoop (behind wall 5.2)	SUERC-33369	Cattle bone	1920±30	cal. AD 20-140
		SUERC-33370	Cattle bone	1920±30	cal. AD 20-140
	Midden on floor	GU-1069	?	1740±70	cal. AD 120-430
4	Terminal infill	SUERC-33373	Cattle bone	1865±30	cal. AD 70-240
		SUERC-33374	Pig bone	1825±30	cal. AD 90-320

Table 4.14 AMS, and conventional radiocarbon (blue shading), dates for House 5 (after Hamilton *et al* in press, 2013).

Modelling of the AMS dates suggests that House 5 was abandoned in *cal. AD 130-235* (95% probability), probably in *cal. AD 140-195* (68% probability; Hamilton *et al* in press, 2013). It appears to have seen continuous occupation and is contemporary with, immediately adjacent, House 4, for at least the later stages of the latter structure; it is possible that these roundhouses served complimentary functions and may have shared a composite roof, at least at thatch height. Unlike House 4, the terminal infill deposits of House 5 fit neatly into the suite of dates returned on samples from other stages of the structure, indicating that this material was generated contemporaneously with the occupation of House 5, and may even represent the redeposited refuse of its last inhabitants.

4.6 **House 6**

House 6 is located in the far south of the excavated interior and is the largest of the Phase 6 roundhouses (Fig. 4.65). Severe plough truncation has however removed all but the northern part of the structure. The Phase 1 palisade trench (JCN: 800-520 cal. BC, SUERC-33740; and 800-540 cal. BC, SUERC-33741; Table 4.16) runs east-west across the House 6 interior (Fig. 4.66); truncation of the settlement interior prior to Phase 6 may have made this a visible feature of past occupation, and influenced the location and orientation of the roundhouse.

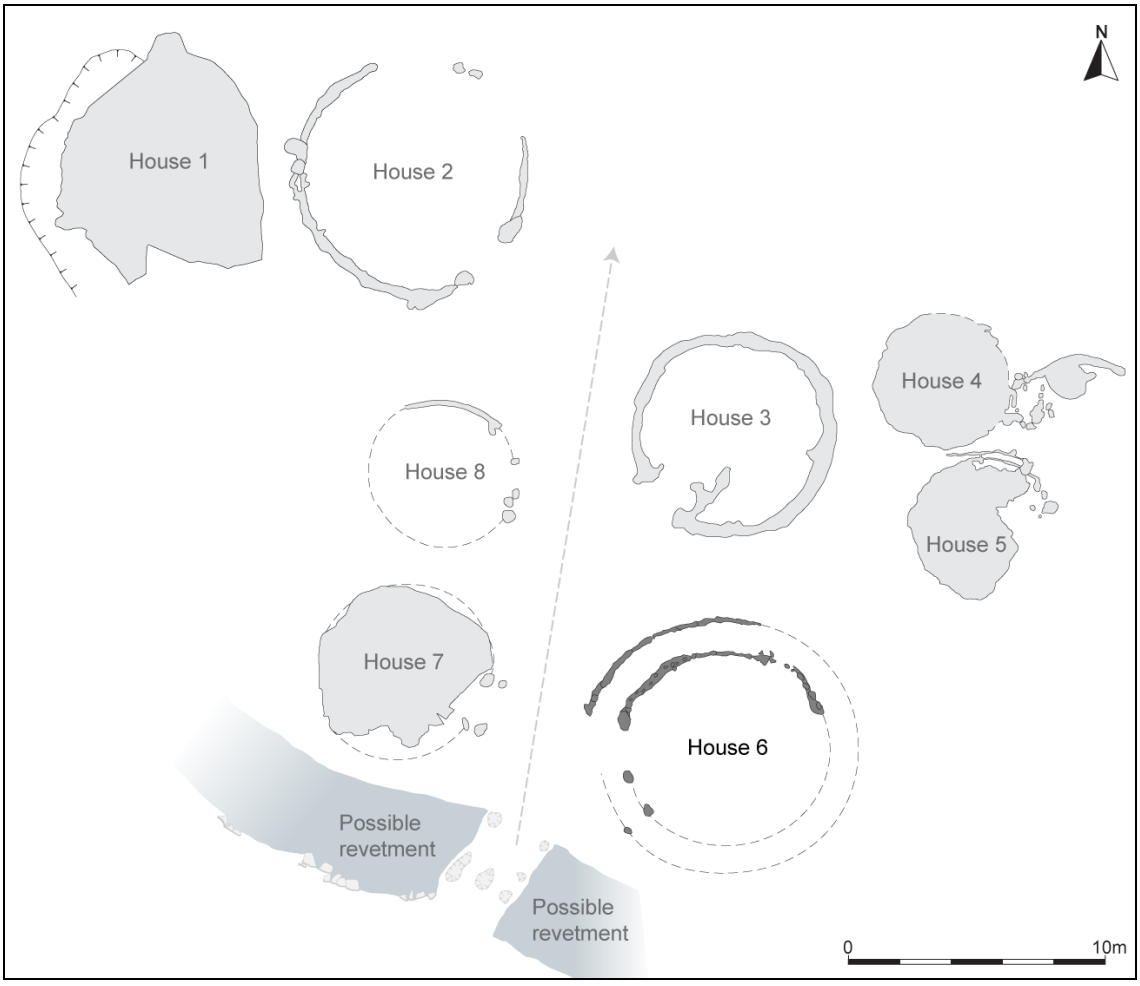
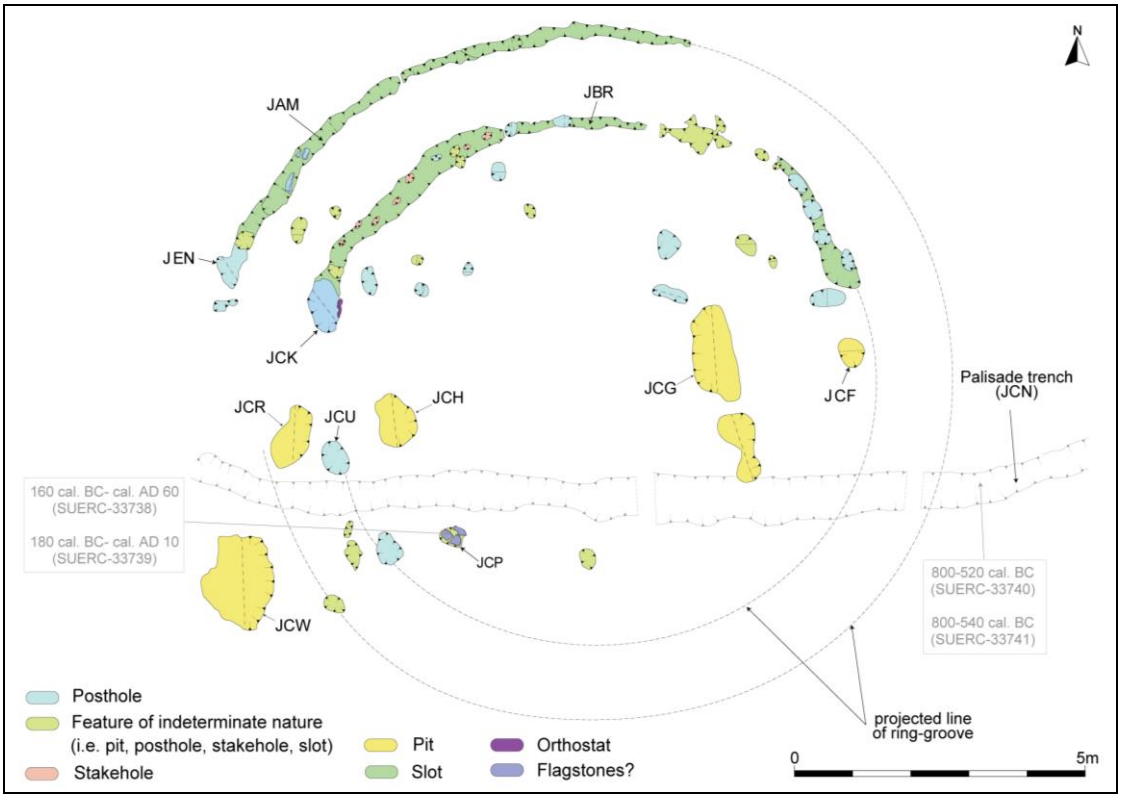


Fig. 4.65 Schematic plan showing the relative position of House 6 in the Phase 6 settlement at Broxmouth (image copyright The Broxmouth Project)

4.6.1 ***Description***

Wall

House 6 is represented by two ring-grooves, each roughly 0.2-0.3m wide and spaced 1.4m apart; these, however, survive only in the north of the structure and are severely plough truncated (Fig. 4.66). The similar morphology (*contra* Hill 1995), and concentric alignment, of these features suggests a double ring-groove structure, with a projected diameter of 12.6m (outer ring-groove JAM; 9.4m for inner ring-groove JBR) and an internal area of 125m^2 (69.4m^2 within inner ring-groove). The ring-grooves likely held continuous stake walls, or wattle hurdles supported on intermittent posts. This double-walled construction, and the apparent re-cutting and replacement of wall-slot posts, may have been necessary to ensure structural stability of such a large building and its heavy roof. The slightly straighter line taken by the east section of the surviving inner ring-groove may suggest that, like the stage 1 and 2 walls in Houses 4 and 5 respectively, it was built in sections; alternatively, it could suggest replacement of this section during the use-life of House 6.



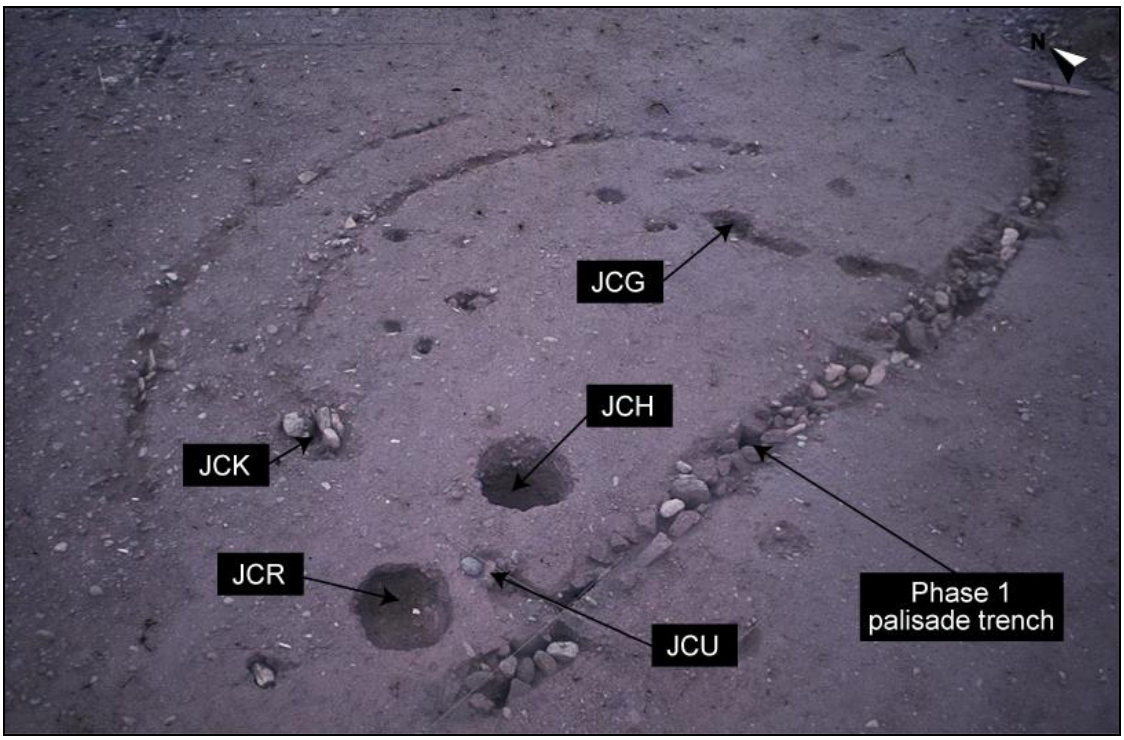


Fig. 4.66 House 6 features (plan: copyright The Broxmouth Project; photograph: Broxmouth archive).

Entrance

Large postholes (JCK and JEN) at the western end of the inner and outer ring-grooves suggest a west-facing entrance for House 6, roughly 2m wide; posthole JCU may represent the corresponding southern entrance posthole on the inner ring-groove but that on the outer ring-groove is absent, presumably having been removed by plough truncation (ILLUS 4.66). A western entrance orientation is fairly unusual for Iron Age roundhouses but may have been influenced by a desire to front onto the arterial roadway running through the South-west Entrance. It is also possible that the House 6 entrance reinforced the east-west bifurcation of the structure by the Phase 1 palisade trench.

Internal features

Several negative features in the House 6 interior follow a roughly concentric alignment with the inner ring-groove (Fig. 4.66), suggesting their association with this structure and not a fortuitous distribution of earlier or later features. Many of the features, predominantly postholes and stakeholes, are too small to have supported the roof, but may have been associated with internal partitions, accentuating the annular division of space within the roundhouse. A single pit (JCF), close to the inner ring-groove in the east of the structure, is described as ‘mollusc (limpet) filled’ (site book) and yields the only artefact, a single pottery sherd (V137; Table 4.15), recorded to House 6; the filling of the pit with molluscs may be significant, whilst the absence of artefacts recorded from House 6 is perhaps a product of the severe truncation of its associated features.

No hearth is visible in House 6 but if centrally placed, or located in the southern part of the interior, evidence for any such feature would have been removed by plough truncation.

It was not possible to date the House 6 ring-grooves themselves due to a lack of faunal material (samples from entrance posthole JCK were discovered only after completion of the project dating programme). However, samples taken from feature JCP, lying inside the projected area of House 6 and thus potentially associated with this structure, returned AMS dates of 160 cal. BC- cal. AD 60 (SUERC-33738) and 180 cal. BC- cal. AD 10 (SUERC-33739; Table 4.16).

Pits

Several of the House 6 pits were extremely large (JCG: 0.7m x 0.4m deep; JCH: 1m x 0.9m deep; 1m x 0.5m deep; JCW: 2m x 1m x 0.6m deep; Fig. 4.67). JCG comprised two inter-cutting features, the earliest of which appears to have had a clay and flagstone lining. JCW occupied a similar position relative to House 6 as Grave 1 did to House 2, although there is nothing to suggest that it ever contained a body. The pits were infilled with deposits containing many artefacts, including a significant quantity of copper alloy (4 out of the 7 definitely prehistoric artefacts recorded from Phase 6; Armit and McKenzie in press, 2013) and distinctive items including: a decorated rotary quern (SF955), with embellished limpet-scarring; a decorated long-handled comb (SF184); pottery vessels (V125, V127), apparently smashed prior to deposition; and a horse harness strap junction (SF518), the only La Tène-style artefact from Broxmouth (Table 4.15; Fig. 5.33, section 5.4.2). This unusual assemblage may have been

associated with the structured abandonment of these large (presumably functionally important) features, though it is possible that were dug specifically to receive these deposits during abandonment (or foundation) of House 6 itself.

Samples from deposit 04 in pit JCR (Fig. 4.67) returned AMS dates of 1740-1520 cal. BC (SUERC-33747) and 50 cal. BC- cal. AD 80 (SUERC-33748; Table 4.16), the former clearly residual or erroneous. Meanwhile, samples from deposits 02 and 01 in pit JCW returned identical AMS dates of cal. AD 1-130 (SUERC-33742 and SUERC-33746; Table 4.16).

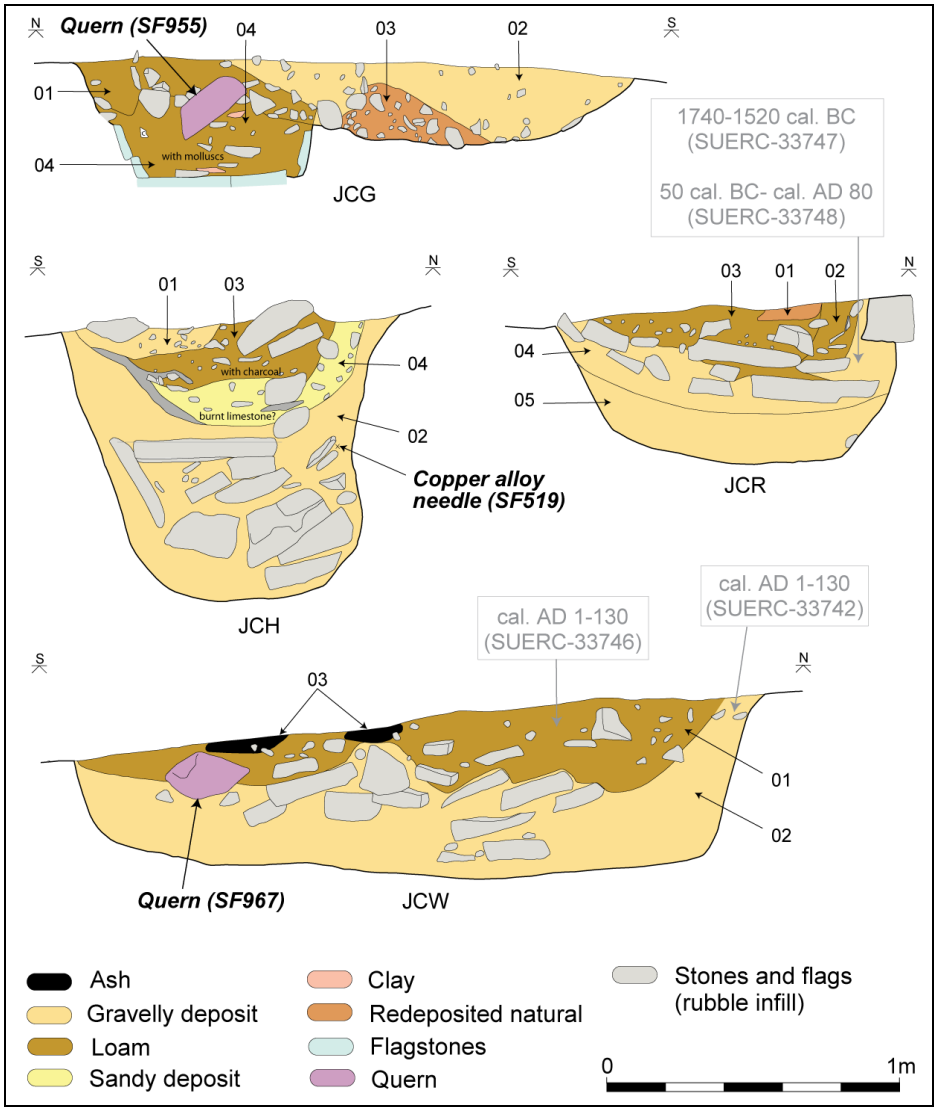


Fig. 4.67 Stage 2 pits, thought to be associated with the decommissioning of House 6 (image copyright The Broxmouth Project).

4.6.2 ***Artefacts***

Context		Artefact type	Find no.	Artefact description
JCF		Pottery	V137	1 base (flat part)
JCG	01	Pottery	V125	1 body, 8 frag.: coil-constructed (Type 2)
		Worked antler	SF285	Toggle/ fastener: unfinished
	04	Worked bone	SF227	Splinter point: fine, well-finished
		Quern (Rotary)	SF955	Upper (low, bun-shaped, c. 50%): embellished limpet hollow decoration?- rare but paralleled in E. Lothian. Carboniferous sandstone.
JCH	Top	Iron	SF566	Tool (graver?)
			SF593	Prob. pink shank: slightly sinuous
	02	Copper alloy	SF519	Needle: Crummy Type 3: 3rd-4th century
	Bottom	Pottery	V126	1 prob. base (flat) (Type 2)
JCR	03	Worked bone	SF181	Point/ pin: head lost, use-polish
		Worked antler	SF184	Long-handled comb (textile-working): 2 parallel lines flank perforation, teeth form sinuous line, asymmetrical wear
	04	Pottery	V127	1 body, 13 frags.: sooted (Type 2)
JCW	01	Worked bone	SF262	Point: blunted from use
			SF257	Peg: crude
		Quern (Rotary)	SF967	Rotary frag./ weight. Coarse sandstone.
		Copper alloy	SF518	Harness strap junction: openwork quatrefoil petal motif x 2, rear rectangular loops, edges worn, gun-metal
	02	Iron	SF585	Tool: down-turned end c. 45°.
		Copper alloy	SF531	Misc.: broken shaft from hair-pin/ needle (Crummy Type 3: 3rd-4th century)
	N/A	Copper alloy	SF516	Needle: Crummy Type 3: 3rd-4th century

Table 4.15 Artefacts recovered from House 6 (all contexts are pits); deposits listed from top to bottom.

4.6.3 ***Chronology***

Six samples were selected for the AMS dating of House 6 (Table 4.16). Unfortunately, it was not possible to date the House 6 ring-grooves themselves due to a lack of faunal material (with samples from entrance posthole JCK only discovered after completion of the site dating programme). Two samples were however selected from a negative feature (JCP) within the projected circumference of House 6 (Fig. 4.65) and thus likely to be associated with it. Four samples were also taken from two of the large stage 2 pits (JCR and JCW), the former including the long-handled comb (SF184) and the latter the La Tène-style horse harness strap junction (SF518). Two samples were also

selected from the Phase 1 palisade trench (JCN) in this area, as part of the wider project dating programme.

Stage	Lab Code	Context		Sample	Date (BP)	Date (cal., 95.4%)
Phase 1 (Pre-H6)	SUERC-33740	Palisade trench (JCN)		Cattle bone	2515±30	800-520 cal. BC
	SUERC-33741			Cattle bone	2530±30	800-540 cal. BC
Prob. H6	SUERC-33738	Feature (JCP), S of House 6		Sheep/goat bone	2030±30	160 cal. BC- cal. AD 60
	SUERC-33739			Sheep/goat bone	2060±30	180 cal. BC- cal. AD 10
House 6	SUERC-33742	Pit JCW	Lower (02)	Sheep/goat bone	1930±30	cal. AD 1-130
	SUERC-33746		Upper (01)	Pig bone	1930±30	cal. AD 1-130
	SUERC-33747	Pit JCR Middle (04)		Animal bone	3345±30	1740-1520 cal. BC
	SUERC-33748			Animal bone	1985±30	50 cal. BC- cal. AD 80

Table 4.16 AMS dates for House 6, and the pits associated with its abandonment (after Hamilton *et al* in press, 2013). Greyed out cells relate to the Phase 1 palisade trench and are shown here for comparison with those from House 6.

AMS dates could not be modelled for House 6 specifically but were included in the modelling of the likely date and duration of the Phase 6 settlement more generally (Hamilton *et al* in press, 2013), since the orientation of the structure onto the arterial roadway through the South-west Entrance suggests that it is contemporary with the other Phase 6 roundhouses.

4.7 **House 7**

House 7 is located in the south-west of the settlement, near the South-west Entrance (Fig. 4.68). It is of similar morphology to House 4 (section 4.4), but displays a slightly less complex structural history, with only four stages of modification. As in House 5, the east and south-eastern parts of House 7 have been badly affected by plough damage.

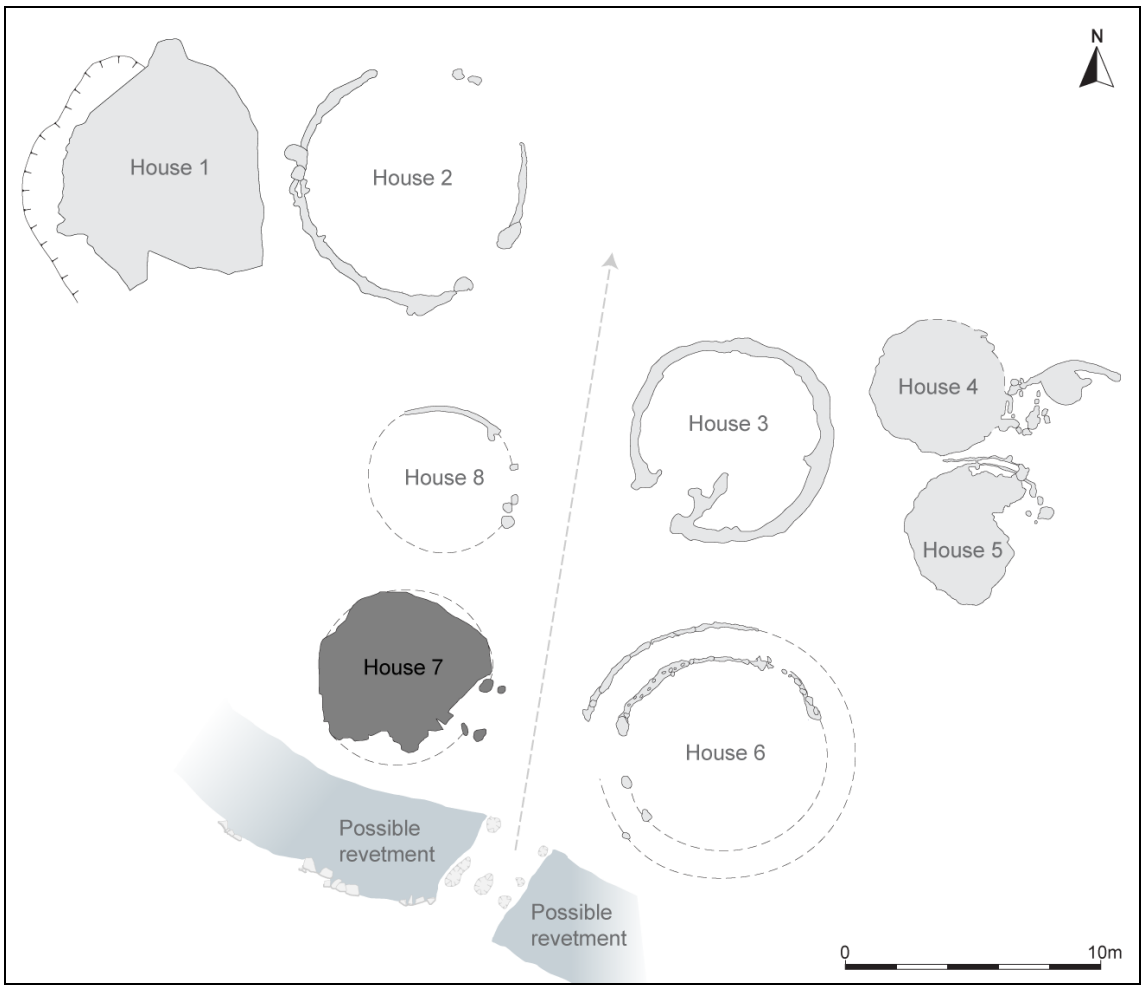


Fig. 4.68 Schematic plan showing the relative position of House 7 in the Phase 6 settlement at Broxmouth (image copyright The Broxmouth Project).

4.7.1 ***Stage 1: Construction***

Wall

The construction of House 7 began with excavation of a sub-circular scoop measuring roughly 7.5m in diameter (44.1m^2) and surviving to a maximum depth of 0.45m (Fig. 4.69), but perhaps originally slightly deeper (Hill 1995). A single-skinned stone wall (HCG), which survives only in the north of the structure for a length of approximately 5m, and to a maximum of three courses (0.5m) high, was built against, and bedded directly onto the floor of, the scoop (Figs. 4.70 and 4.71). The intervening space would presumably have been backfilled with redeposited natural or other material, in order to support rafters, if they did not rest on the ground surface above. In contrast to House 4, and the stage 4 wall (HCE) of House 7, no artefacts were recorded from the stage 1 wall, but can perhaps be attributed to its poor survival.

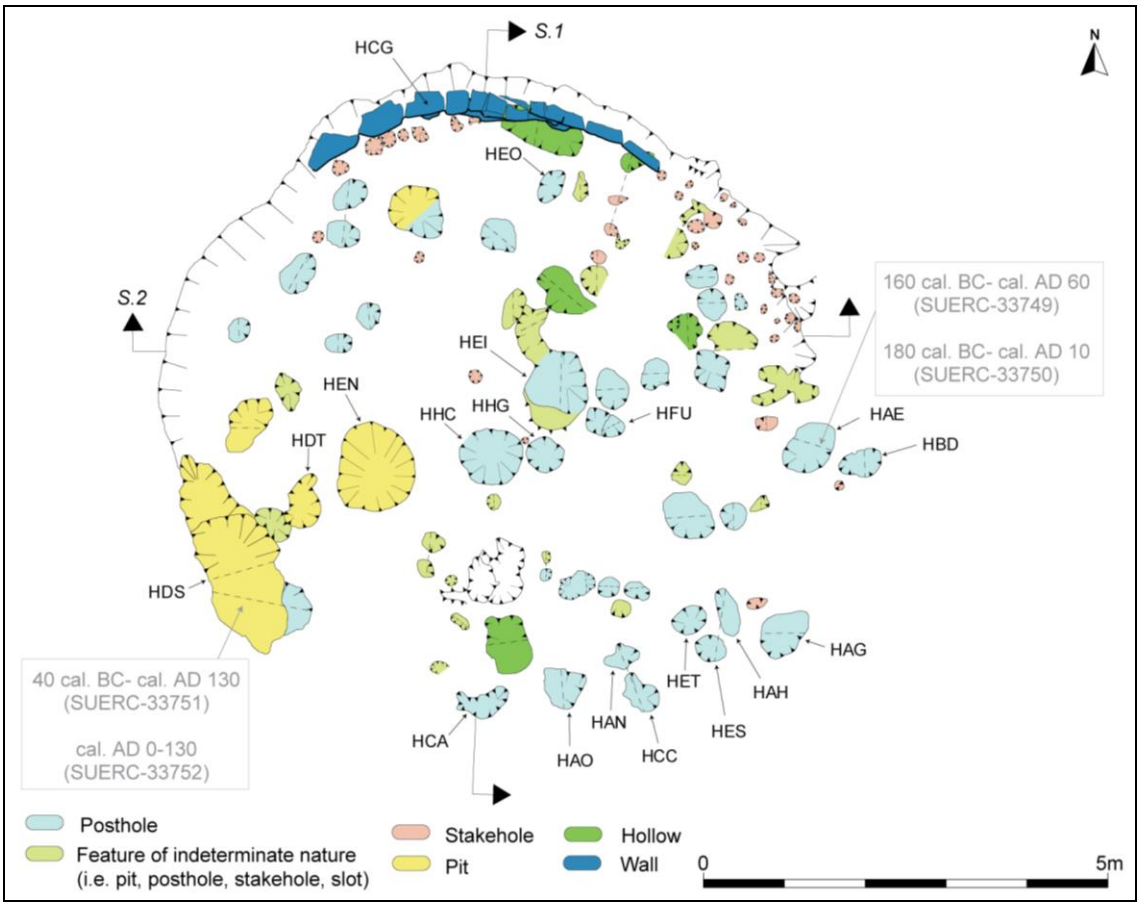


Fig. 4.69 Stage 1 features of House 7 (plan: copyright The Broxmouth Project; photograph: Broxmouth archive).

The lower 0.2m of the scoop is vertical, whilst the upper levels are angled, suggesting that it was cut in two stages: the excavation of a pit with sloping walls, subsequently re-cut with a vertical profile to take the basal courses of the wall. The significant difference in height between the base of the wall and the floor of the scoop (Fig. 4.70; though less clear in section, Fig. 4.71), and the dished profile of the House 7 floor (Fig. 4.71), suggests, as in House 4, significant floor erosion during this stage of occupation; inevitably, erosion appears to have been particularly acute near the entrance.

Fig. 4.70 The stage 1 wall (photograph: Broxmouth archive).

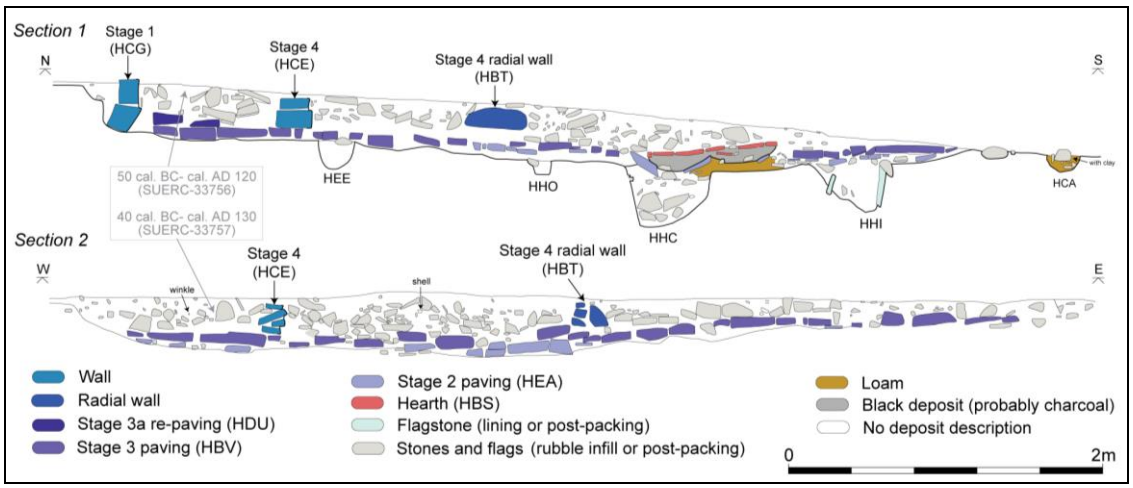


Fig. 4.71 Long sections through House 7 (image copyright The Broxmouth Project). Section numbers relate to their location in Fig. 4.70.

The stage 1 wall is assumed to have extended around the north of House 7, having been removed by later stone-robbing (perhaps during construction of the stage 4 wall) and/ or plough truncation. In the west of House 7 however, a large pit (HDS) follows the line of the scoop, suggesting that it is a contemporary feature. It is possible that it was dug to receive foundation deposits, and immediately backfilled, but if open during stage 1 occupation, it is unlikely that it was spanned by the stone wall. The scoop shallows dramatically as it approaches this pit and is apparently absent south of it, where several large postholes lie on the projected wall-line (Fig. 4.72). This suggests that the pit marks a boundary between two different types of wall-construction: stone in the north and timber in the south. No ring-groove survives between the posts making up the southern part of the wall, either because it has been removed through plough truncation or because the posts supported non-earth fast hurdles. It is possible that, in the absence of the scoop in this area, a timber wall was more stable than a free-standing drystone wall. The posts in this section of the wall-line appear to have been replaced at least once, whilst clay deposits at the base of postholes HCC and HES (nearest the entrance) may have provided greater support in this down-slope area. This composite construction marks a major difference between, superficially similar, Houses 4 and 7.

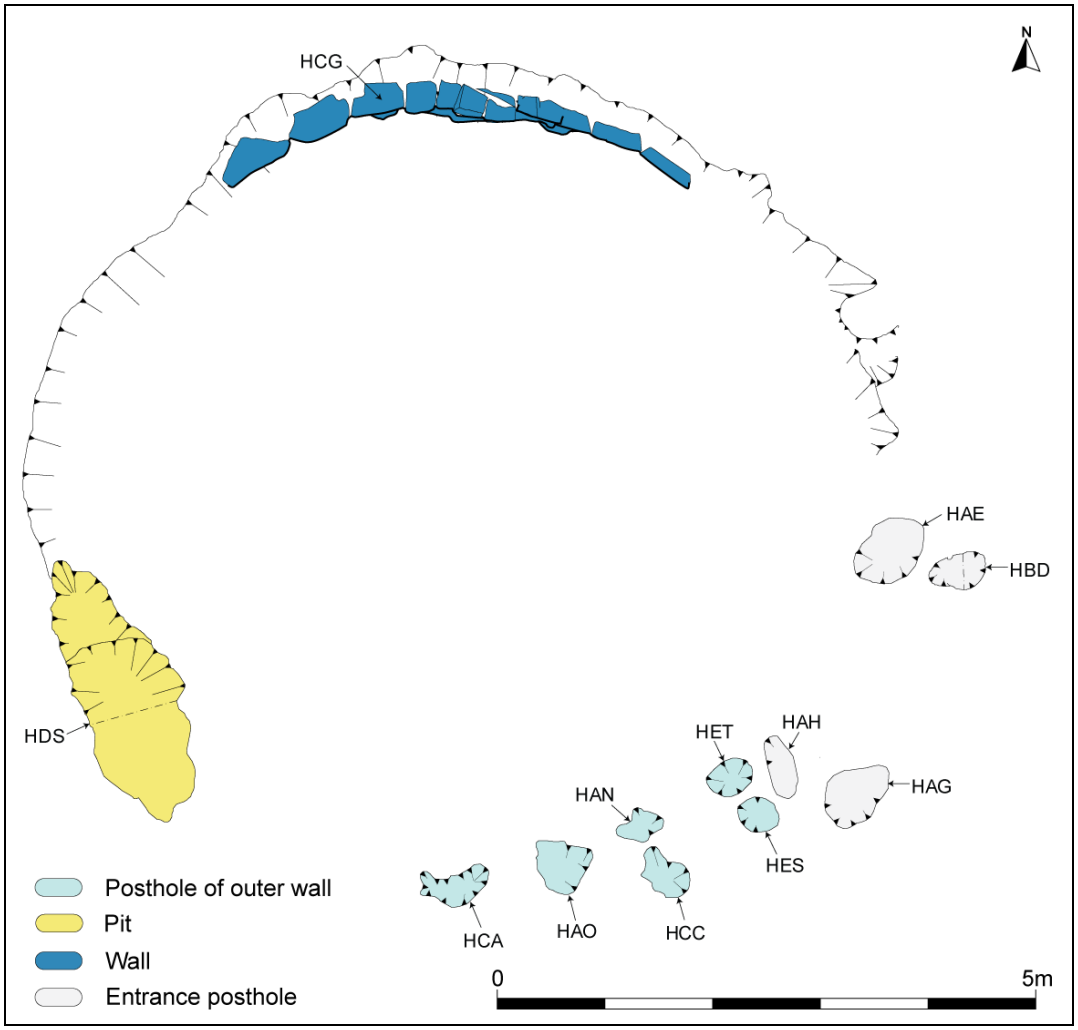


Fig. 4.72 Proposed composite stone and timber wall (image copyright The Broxmouth Project)

Entrance features

Two pairs of postholes (HAH/ HAG and HAE/ HBD; Fig. 4.69) define an east-south-east facing entrance some 2m wide, the outer postholes of which may represent a short porch. A number of features lying immediately inside the entrance (Fig. 4.69) may represent door furniture associated with a double-door or entrance passage. These postholes are highly plough truncated, and it is possible that other elements of door furniture comparable to House 4, such as an orthostatic sill stone or paved porch, have been lost. Concentrations of antler-working debris (SF471, SF473, SF503; Table 4.18) were recovered from

these postholes, and animal bone from posthole HAE returned AMS dates of 160 cal. BC- cal. AD 60 (SUERC-33749) and 180 cal. BC- cal. AD 10 (SUERC-33750; Table 4.19). The entrance orientation of House 7 is consistent with that of most other Iron Age roundhouses but significantly, it also fronts onto the arterial road running through the South-west Entrance (Fig. 4.68).

Internal Features

Numerous negative features were cut into the base of the stage 1 scoop (Fig. 4.69) and, as in Houses 2, 3 and 4, show little evidence of inter-cutting. Thus, whilst they undoubtedly represent somewhat of a palimpsest, as illustrated by differential truncation in Fig. 4.69 (bottom), these features all appear to be associated with the same House 7 stance. As in the other roundhouses, so many features, if left uncovered, must surely have been obstacles to movement around the structure, if contemporary.

Lines of stakeholes (c. 0.1-0.2m in diameter) run along the base of the stage 1 wall in the north and north-east of House 7 (Fig. 4.73), suggesting that, as in House 4, the wall was lined with wattle hurdling, perhaps to facilitate storage or for decorative purposes. Since these stakeholes survive in the severely eroded stage 1 floor surface, it is possible that they were not associated with the original design of House 7; the sealing of some of these features by the stage 2 paving does, however, suggest their attribution to at least some part of stage 1, with continued use (albeit with some replacement of stakes) in stage 2.

Fig. 4.73 Stakeholes along the base of the stage 1 wall (HCG; photograph: Broxmouth archive)

Two postholes (HHC, 0.8m x 0.65m; HEI, 0.7m x 0.5m) near the centre of House 7 are notable in their size (Fig. 4.69). Sections through these features (Fig. 4.74) indicate that they represent postholes rather than pits, the pit-like dimensions of the former most likely result from digging out of the post (Hill 1995); feature HEJ, immediately north of posthole HEI may represent the scar left from removal of this post. Neither posthole is sufficiently central to have served as a 'central post' akin to posthole JJF in House 4. Whilst their function is unknown, their large size suggests a constructional or structural role; indeed, like JJF, both posts appear to have been deliberately removed.

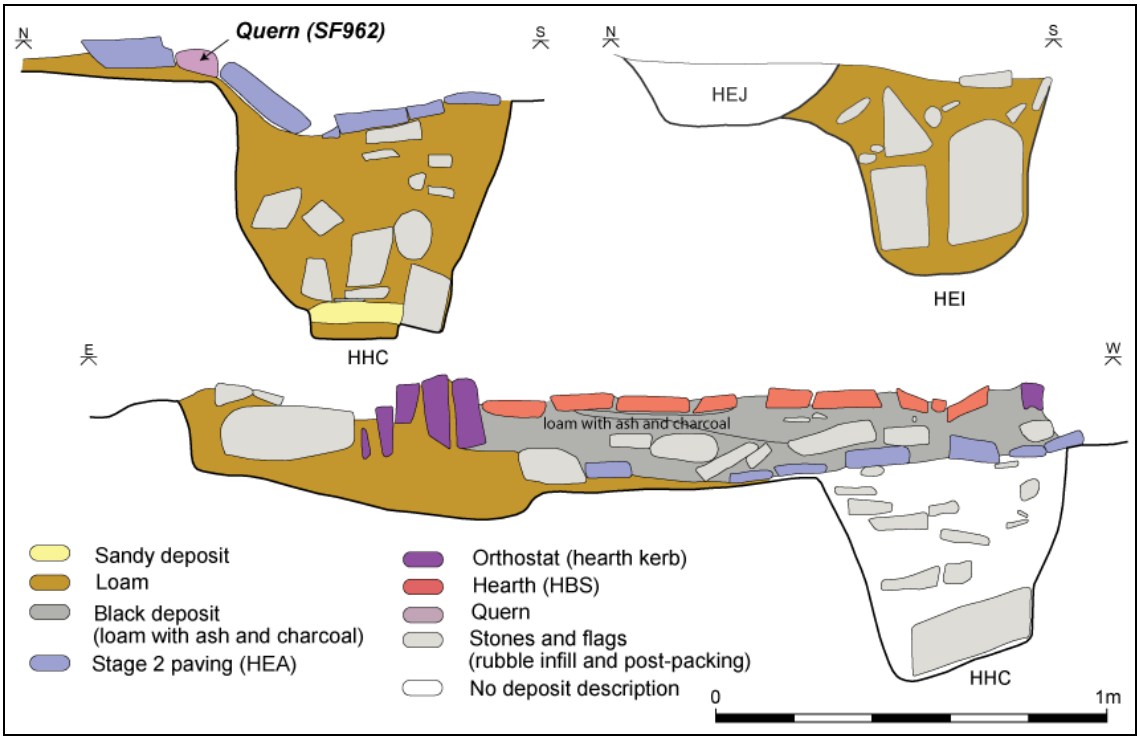


Fig. 4.74 Postholes HHC and HEI (image copyright The Broxmouth Project).

Posthole HHC is partially overlain by two flag-lined, bowl-shaped features containing charcoal-rich deposits (Fig. 4.81). Whilst they are not formally recorded in the archive, it is possible that these features represent a hearth associated with the stage 2 structure, since it appears to be lined with stage 2 paving. The location of successive hearths over such a substantial earlier posthole parallels that of the stage 3 hearth over pit/ posthole complex (JIW/ JIX) in House 4, and may likewise have been intended to reference it. A whetstone (SF1014; Table 4.18) was recovered from the upper infill deposit of posthole HEI, and may have been associated with the structured closure of this feature. Several of the other negative features, mainly large postholes, in the stage 1 interior also include artefacts consistent with structured closure deposits (Table 4.18).

The House 7 interior included several pits (Fig. 4.69), which tended to cluster in the west of the structure, in a similar position relative to the roundhouse entrance as those in Houses 2 and 4.

Pit HDS (Fig. 4.75), lying on the line of the scoop (Fig. 4.69), was the largest of these features, measuring around 2.5m in length. It had a stepped profile (north: 0.9m long x 0.4m deep, south: 1.6m long x 0.8m deep), and the northern re-cut, if not also the original cut, of the feature was slab-lined. It is unclear whether it represents one complex, or two inter-cutting, features, but the fact that the infill deposits appear to span the entire length of the pit suggests that both parts were, at one time, open, and infilled, contemporaneously. The pit included several fire-cracked stones and other artefacts (Table 4.18) in its infill. It is possible that the fire-cracked stones relate to its function, perhaps as a cooking pit, although the pit does not appear to have been water-tight; it is however equally possible that they were simply incorporated into the infill material from elsewhere in House 7, or the wider Phase 6 settlement.

The number of artefacts (Table 4.18) incorporated into the infill of this pit, together with its sealing and/ or referencing by a quern (SF936; Table 4.18) in the stage 3 paving (HBV; Fig. 4.82), suggests that it was an important feature, either serving to receive foundation deposits upon construction of House 7, or playing an important functional and symbolic role in the stage 1 occupation of the roundhouse. Samples from the lower and upper infill deposits of this pit returned AMS dates of 40 cal. BC- cal. AD 130 (SUERC-33751) and cal. AD 1-130 (SUERC-33752) respectively (Table 4.18).

As in House 5 (pits JHC and JHK), a large, roughly circular, pit (HEN; 1m x 0.5m deep), located near to the centre of House 7, was almost entirely filled with clay (Fig. 4.76). Unless the pit was used for clay or daub processing, the clay is unlikely to have been associated with its use (certainly it is too thick to represent a 'clay-lining'); several slabs could however suggest the remains of a flag-lining, or at least, a flag-lined re-cut. The clay may have been deposited to ensure a stable surface for the stage 2 paving, but if so, it begs the question as to why the other stage 1 pits were not afforded similar treatment. A single bead roughout (SF284; Table 4.18) in pit HEN may represent a structured deposit, whilst its sealing by a saddle quern (SF911) and worked stone fragment (SF965) in the stage 3 paving (Fig. 4.82) may attest to its social or functional importance and the need to reference its location in later occupational stages.

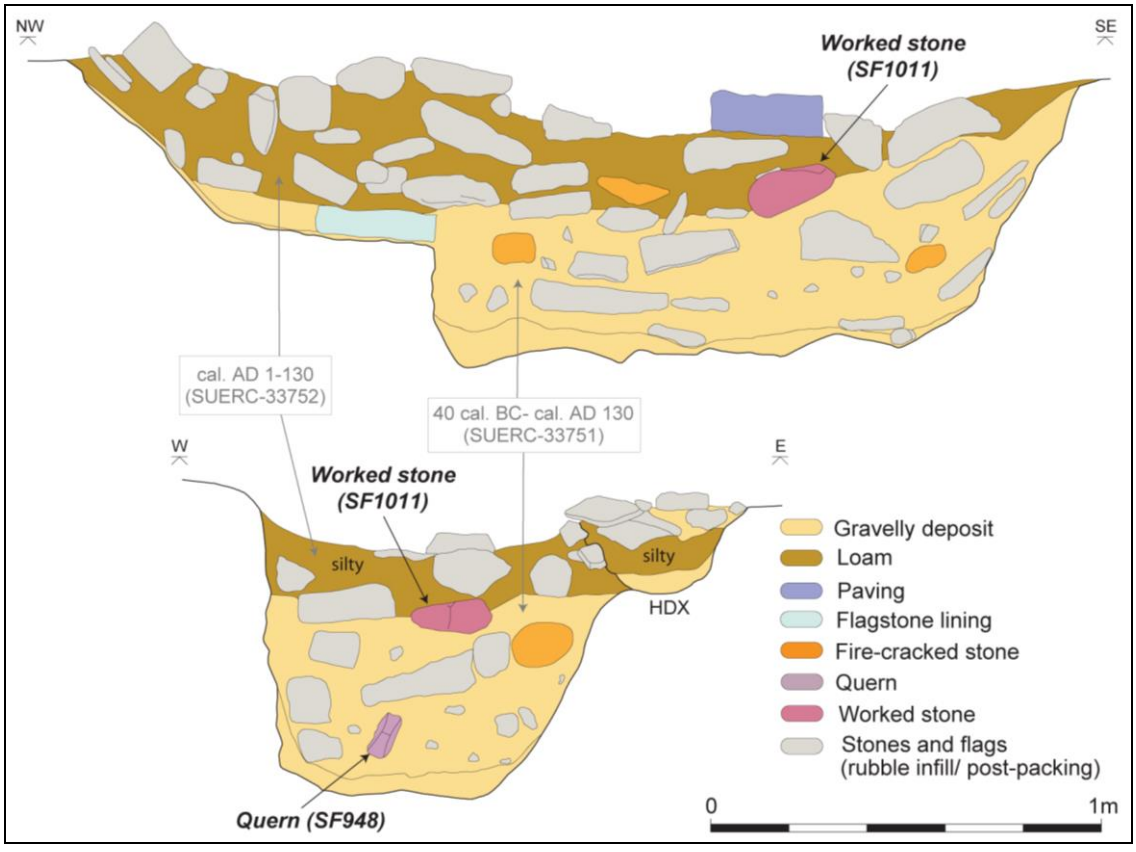


Fig. 4.75 Stage 1 pit (HDS; image copyright The Broxmouth Project)

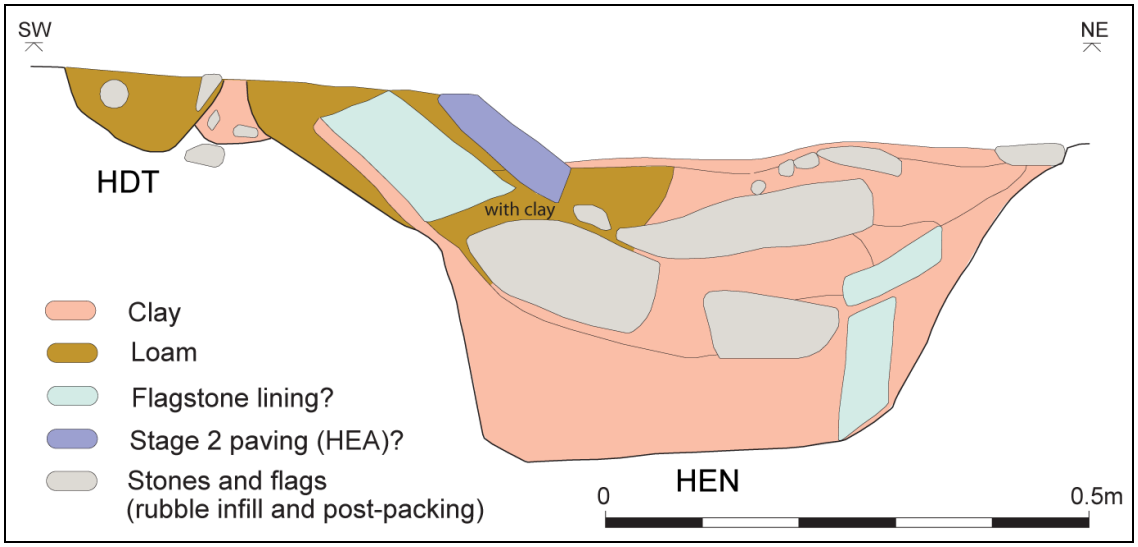


Fig. 4.76 Stage 1 pit (HEN; image copyright The Broxmouth Project)

Internal partitions

As in Houses 2 and 3, lines of features flanking the House 7 entrance (alignments 1 and 2) suggest an internal entrance passage funnelling individuals towards the centre of the structure (Fig. 4.77). The features in the middle of this proposed passage may have further controlled access, perhaps segregating humans from animals or creating a 'one way' system. As in House 2, direct access to the rear is blocked by an alignment (3, Fig. 4.77) of features, though on this occasion encouraging clockwise (sunwise) movement around the structure; such a route would however rely on pit HEN being covered, or perhaps infilled with its clay deposit, so as not to pose an obstacle.

No post-ring is apparent within House 7 (*contra* Hill 1995), but some patterning of features towards the rear of the structure (Fig. 4.78) may suggest linear or chordal spatial organisation, with non-earth-fast partitions of wood, hide or textile demarcating different zones of activity.

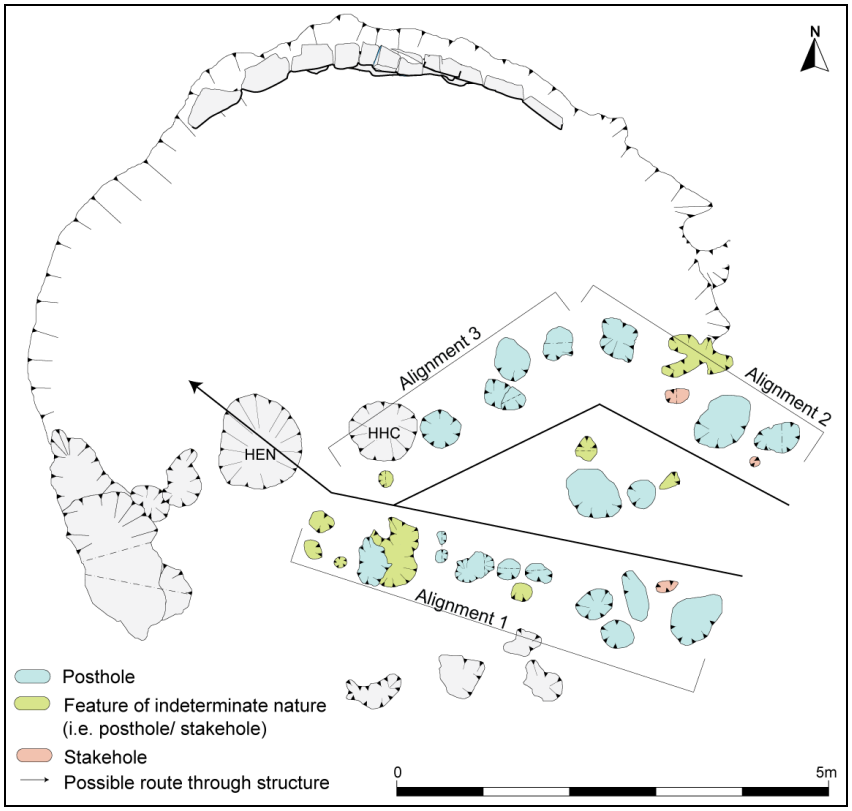


Fig. 4.77 Possible access routes in stage 1 (image copyright the Broxmouth Project)

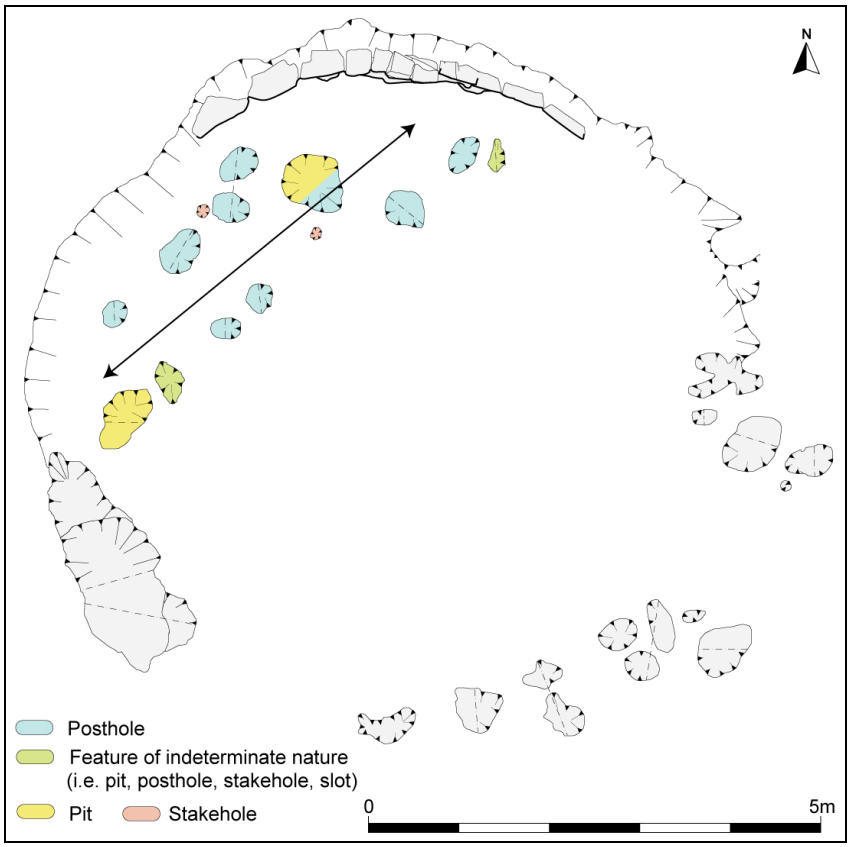


Fig. 4.78 Possible linear alignments of postholes (image copyright The Broxmouth Project)

4.7.2 ***Stage 2: Paving***

Stage 2 sees the laying of a paved surface (HEA; Fig. 4.79) which, whilst surviving in only four discrete areas of the House 7 interior, likely represents the remains of a total floor covering which was subsequently robbed or truncated and re-used in stage 3 (HBV; Fig. 4.82). The stage 2 paving sits directly over the stage 1 floor, with no apparent bedding material, and variously comprises large slabs and cobble-like stones. In contrast to House 5, where the larger slabs clustered towards the centre of the interior and the cobbles towards the periphery, the opposite appears to be true in House 7 (Fig. 4.79). It is possible that cobbles were employed in the centre of the structure to help level the dished profile of the stage 1 floor surface (Fig. 4.71), with any larger slabs which may have overlain them having been removed and re-used in stage 3.

As in stage 3 of House 4, the stage 1 wall of House 7 appears to have continued in use during stage 2, with the paved surface presumably having been laid to combat the severe floor erosion observed in stage 1. Whilst this surface seals some of the stakeholes lining the wall in the north-east of the structure, replacements suggest that the wattle wall-lining was also retained in this stage. The entrance furniture also appears to have continued in use, though poor preservation has obscured details of any subtle structural developments in this area.

The sealing of the large stage 1 pits with paving indicates a dramatic change in the function of House 7 at this time, as is also witnessed in stage 3 of House 4. Whatever important function these impressive features performed must, at this

time, have been accommodated in other ways within the roundhouse, 'out-sourced' elsewhere in the Phase 6 settlement or ceased altogether. Two querns (SF961b, SF962; Table 4.18; Figs. 4.79 and 4.80) were incorporated into this surface, the former placed adjacent to stage 1 posthole HHC, perhaps, as is witnessed in House 4, in order to reference the location of this feature to the stage 2 inhabitants.

Significantly, the other half (SF961a) of this quern incorporated (SF961b; Fig. 4.80) was deposited in paving (HIA) overlying House 8, which forms part of the realignment (stage 2) of the interior roadway (Fig. 4.94, section 4.9.2). Since these fragments represent two halves of an unfinished quern (apparently broken during manufacture), and neither displays evidence of secondary use, they are likely to have been deposited soon after breakage, and thus provide a chronological, and possibly also a symbolic, link between these two parts of the Phase 6 settlement.

As suggested previously, though not recorded in plan, sections (Figs. 4.71 and 4.81) suggest that an early hearth represented by the charcoal-filled bowl-shaped features in the centre of the structure may have been associated with the stage 2 roundhouse.

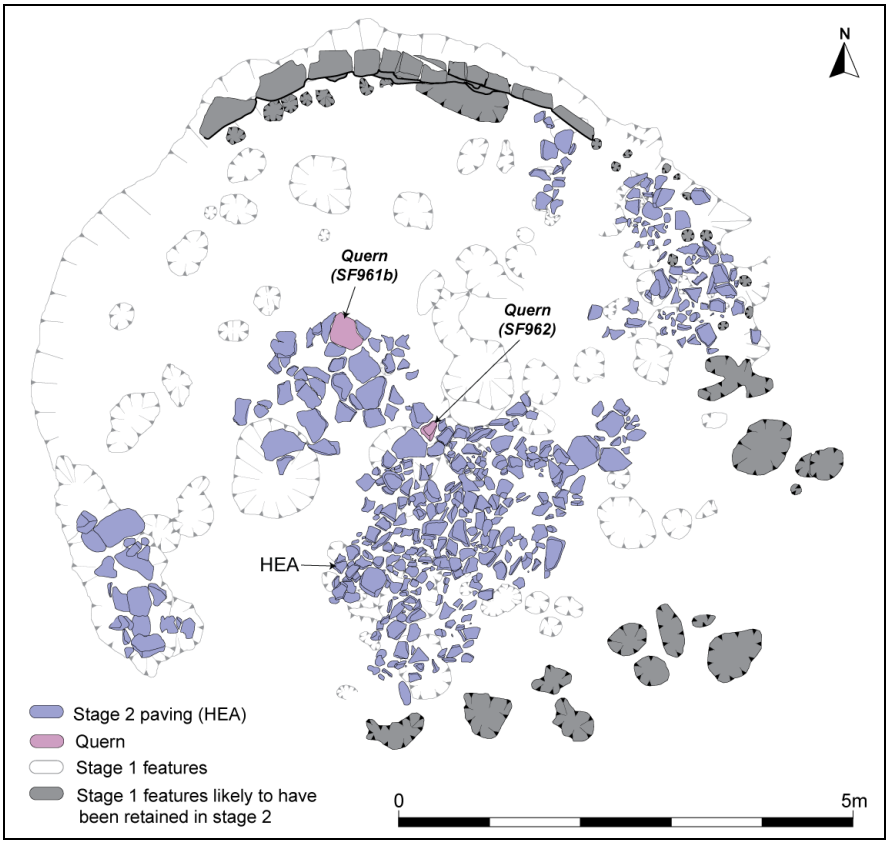


Fig. 4.79 Stage 2 features of House 7 (image copyright The Broxmouth Project).

Fig. 4.80 Two fragments (SF961a and SF961b) of the same, unfinished upper rotary quern stone, which were deposited in the stage 2 paving of House 7 (SF961b), and the stage 2 widening/ realignment of the arterial roadway (SF961a; photograph: The Broxmouth Project). Since the quern appears to have broken during manufacture, the fragments are likely to have been deposited fairly rapidly after breakage, suggesting that the two surfaces were laid contemporaneously.

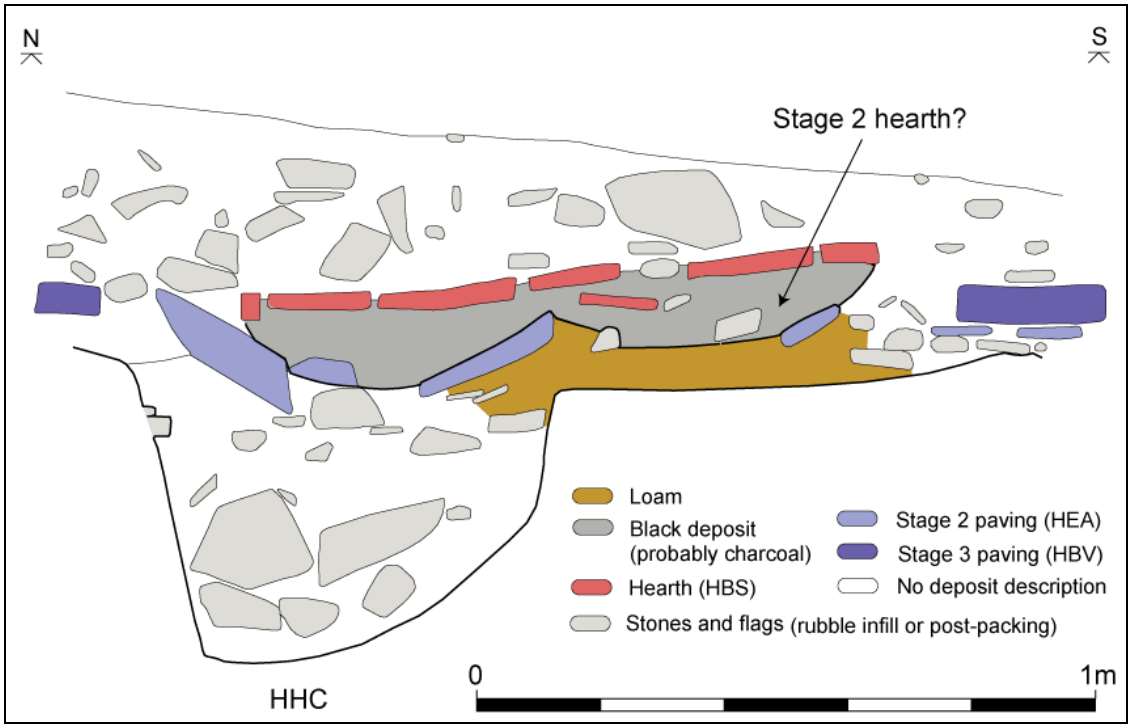


Fig. 4.81 Charcoal-filled bowl features overlying posthole HHC, which may represent a hearth associated with stage 2 of House 7 (part of Fig. 4.71, copyright The Broxmouth Project).

4.7.3 ***Stage 3: Re-paving***

Paving

Stage 3 witnessed the laying of a new paved surface (HBV; Fig. 4.82), which survived over a larger part of the interior than the stage 2 floor, and comprised larger, more uniform slabs; it is likely that some of the larger stage 2 slabs were re-used in this paving, revealing some of the stage 1 negative features in the process. The eastern and south-eastern parts of this surface are absent, having also presumably been robbed for use elsewhere or truncated by the plough. In some areas, the stage 3 paving directly overlay the stage 2 surface, but in others, presumably where the stage 2 slabs had been re-used, it sat directly on the floor of the scoop.

As in stage 2, the stage 1 wall remained in use, whilst a gap between this wall and the new paved floor suggests that the hurdle lining may also have been retained. The entrance also appears unchanged at this time.

As previously noted, querns (SF936 and SF911) and a fragment of worked stone (SF965) incorporated into the stage 3 paving appear, as in House 4, to reference the larger negative features of stage 1.

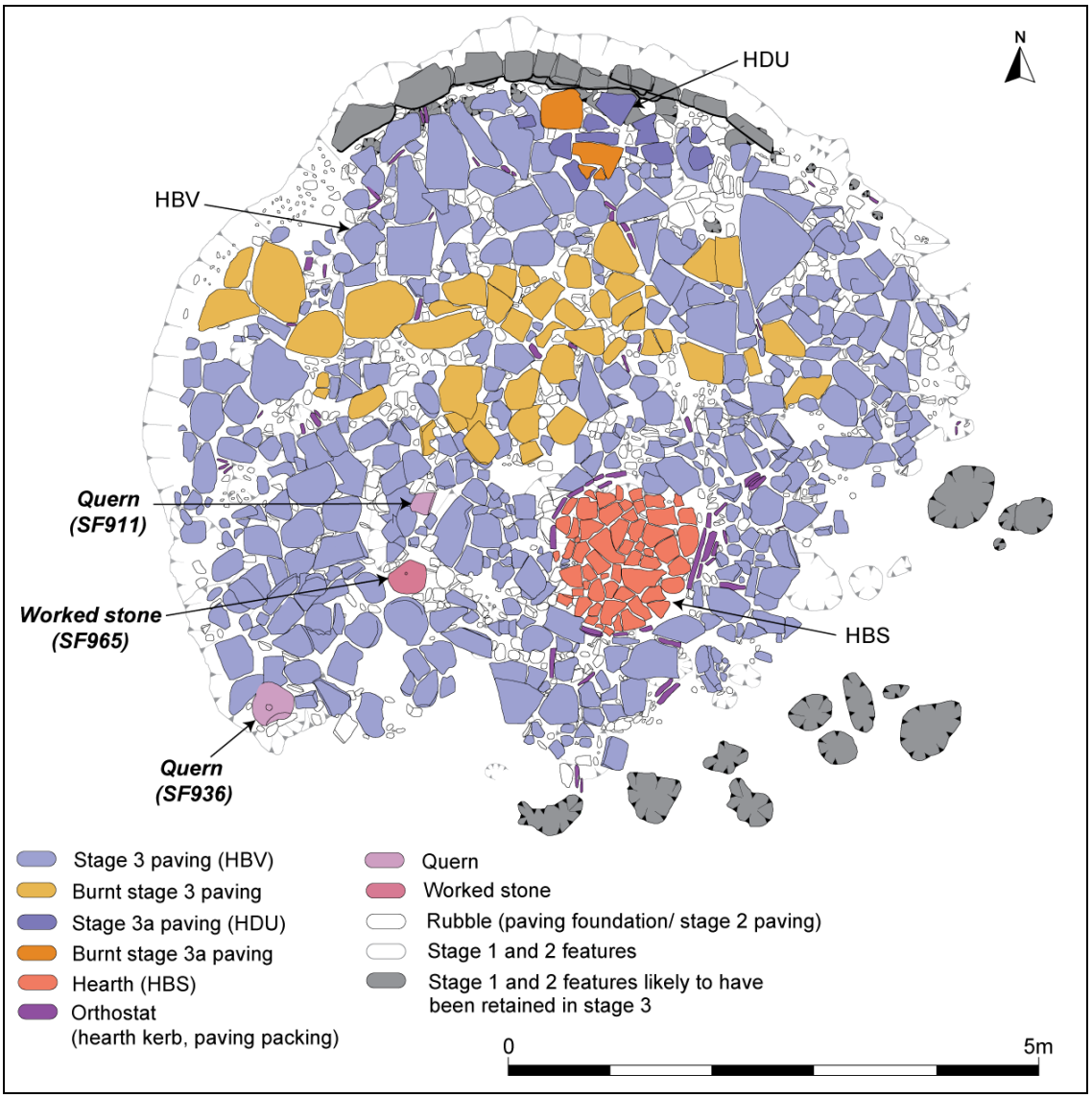


Fig. 4.82 Stage 3 features of House 7 (image copyright The Broxmouth Project).

Internal features

The stage 3 paving included a formal, paved hearth (HBS), much larger and more centrally-located than that in House 4, and more akin to that in House 3. This was a large, sub-circular feature, located just south of centre, and constructed of small sandstone slabs, surrounded by a kerb of orthostats (Fig. 4.82). As discussed above, this hearth overlay the charcoal-filled, bowl-shaped features in the stage 2 floor and may suggest some continuity in the organisation of internal space within House 7. No artefacts were recovered from the stage 3 hearth, which appears to have been swept clean at the end of its use. Saddle quern SF911 and worked stone SF965 were, however, located across the hearth from the House 7 entrance which, given the similar location of the orthostats in the stage 1 and 4 walls of House 4, may be significant. Samples (GU-23631 and GU-23632) from the hearth failed to return AMS dates due to insufficient preservation of collagen (Table 4.19).

Stage 3a: Re-paving

Some time during stage 3, an additional layer of paving (HDU) was laid at the rear of the structure (Fig. 4.82). It is possible that this event represents a discrete episode of activity, but since this area of paving is so small, it may simply indicate *ad hoc* repair to the existing stage 3 surface, perhaps due to subsidence in this area (certainly, hollow HEH underlies the paving here). As Fig. 4.71 indicates, the new slabs maintained the gap with the stage 1 wall, presumably because the internal hurdle-work remained in use.

A number of slabs in the stage 3 and 3a paving are recorded as burnt. The burnt slabs are fairly widely distributed, though they are confined to the rear of the structure, and do not, therefore, represent evidence of a second hearth; indeed, the presence of such a feature is unlikely given the degree to which internal space is already taken up by the large, central, hearth. It is possible, then, that the burnt slabs represent evidence for a conflagration of House 7 in stage 3, at least at the rear of the structure. A 'thin layer of dark ashy soil' was recorded as sealing the stage 3 paving (site book), and may support this hypothesis. It is unclear whether any conflagration was accidental or deliberate; whilst the deliberate conflagration of roundhouses at the end of their use-lives is well attested, House 7 sees a further stage of occupation before its abandonment. Whatever the reason for the fire, it is possible that it brought an end to stage 3 occupation, and prompted the rebuilding (and remodelling) which signals the beginning of stage 4.

4.7.4 ***Stage 4: Re-walling***

Wall

Stage 4 is characterised by the construction of a new, double-faced, wall (HCE/ HCF), which reduced the size of the interior to 7.5m x 5.5m (33.2m^2; Fig. 4.83), and which survives, up to two courses high, over an intermittent length of around 9m in the north and west. The outer face (HCF) was constructed a maximum of 0.7m, and the inner face (HCE) a maximum of 1.5m, from the stage 1 wall; it may be that, as in House 4, the inner face was sufficiently far from this wall to necessitate the insertion of an outer face for stability. The outer

face appears, as in House 4, to include an orthostat (Fig. 4.83), though not opposite the entrance.

The space between the faces of the stage 4 wall and between the stage 1 and 4 walls was packed with rubble containing significant quantities of shell (site book). This deposit appears to have been capped with flat slabs (HCU), which may represent a wall-plate on which the rafters were supported, if they were not bedded into the wall core itself. This deposit returned AMS dates of 50 cal. BC- cal. AD 120 (SUERC-33756) and 40 cal. BC- cal. AD 130 (SUERC-333757).
In the north, the stage 4 wall terminates at a similar location to the stage 1 wall, suggesting that both were truncated by the plough, or robbed out, where the scoop was shallowest and the wall closest to the surface. At its southern end, the stage 4 wall terminates over infilled pit HDS. It is possible that the wall continued in the south and south-east of House 7, though there is nothing to suggest that the timber wall was not retained (albeit perhaps repaired) during this stage of occupation.

The stage 3 paving was retained in stage 4, as was the hearth. Since the stage 4 wall was constructed directly over the stage 3 slabs however, no gap was left between the two, and thus the wattle lining appears not to have been retained.

As in House 4, several artefacts (Table 4.18) were incorporated into the stage 4 wall/ wall core and, whilst some may simply represent convenient re-use as building material, others may be structured foundation deposits. A rotary quern (SF952; Table 4.18), recovered from the wall core, is described as having been

overlain by ‘a layer of ash/ charcoal’ (site book). This either suggests that the quern was, in fact, associated with the stage 3/ 3a paving over which the stage 4 wall was constructed, and was overlain by debris from the proposed stage 3 conflagration; or that material from this conflagration was used in construction of the stage 4 roundhouse, perhaps for both practical and symbolic reasons.

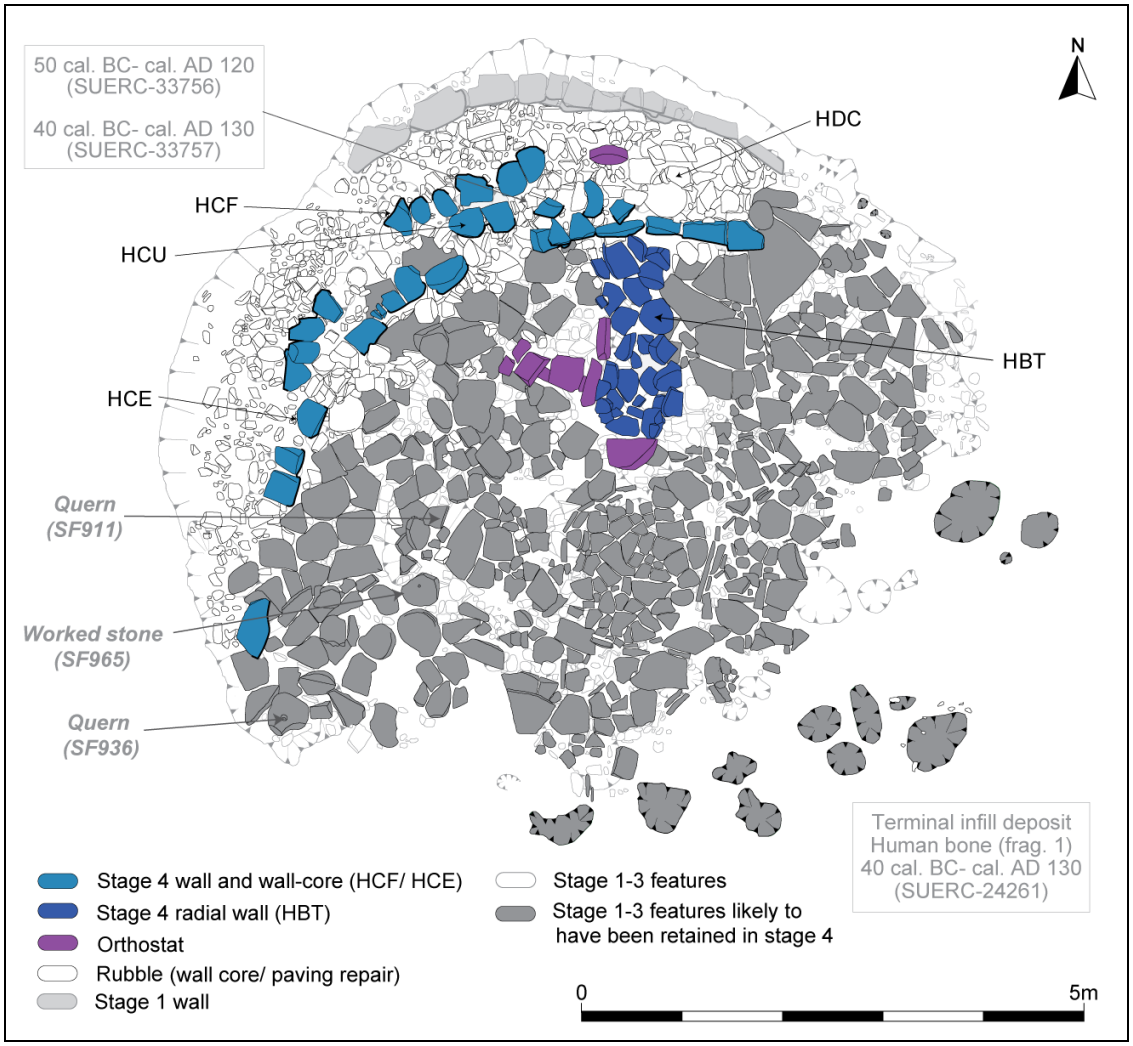
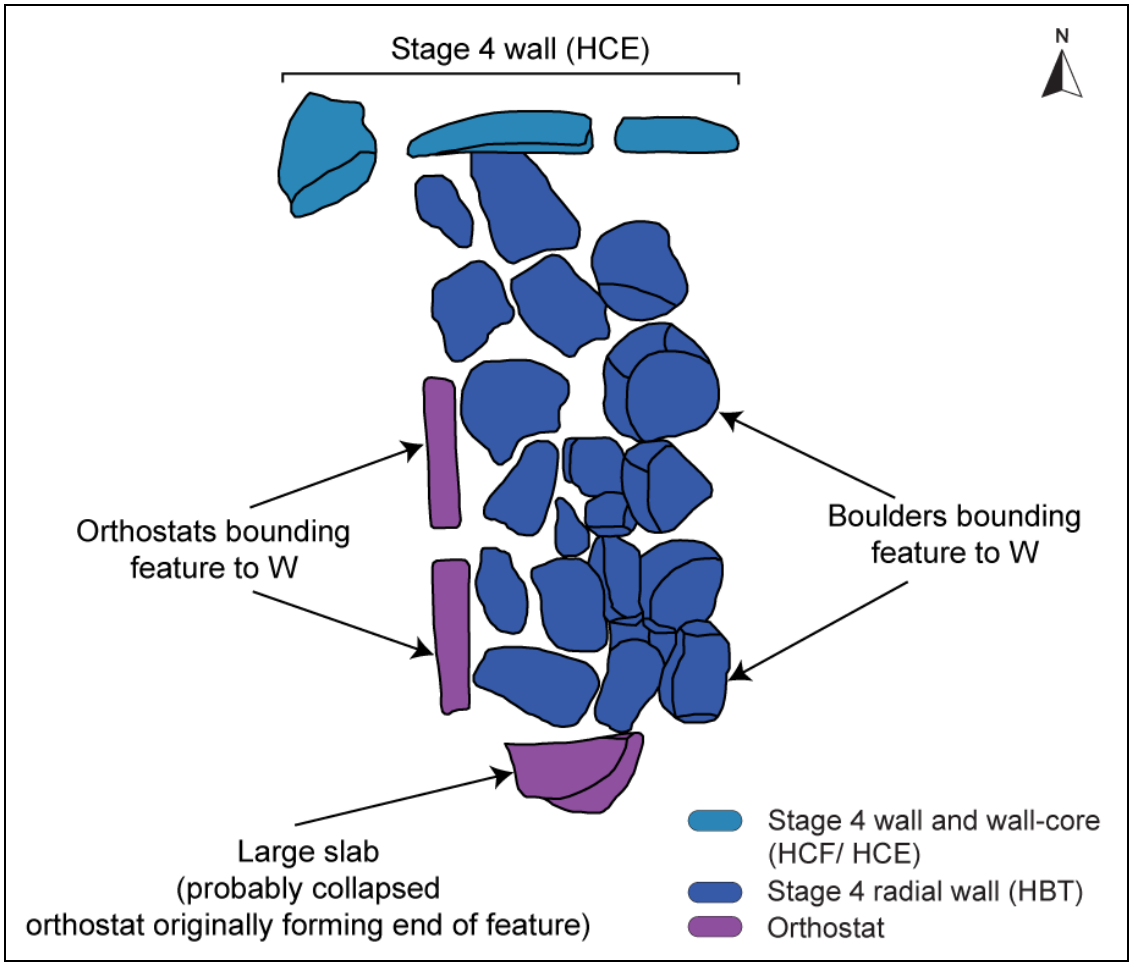


Fig. 4.83 Stage 4 features of House 7 (image copyright The Broxmouth Project).

Internal partitions

At some point during stage 4, though not likely to represent a discrete stage of activity, a short length of walling (HBT; Fig. 4.83) was constructed at right angles to, and abutting the inner face of, the stage 4 wall. This wall, which was edged by orthostats on the west and south, and large boulders on the east, measured some 1m wide and projected roughly 2m into the roundhouse interior, terminating at the central hearth and thus blocking access around the rear of the structure. This wall is extremely poorly recorded in the archive, having been distinguished on plan only from comparison with slides and a sketch on the context card for feature HBT (Fig. 4.84).

Visible on slide (Fig. 4.84, bottom), but not on the context card sketch (Fig. 4.84, top), is a line of east-west running orthostats projecting roughly eastwards from the southern terminus of the radial wall, creating a small cell (much like that in the east of House 3). It is unclear whether this wall ever stood taller than its surviving courses, or whether it served as a base for a wooden, textile or hide screen, and thus whether or not activity within the cell was inter-visible with the rest of the roundhouse interior. A layer of dark ashy soil was recorded as overlying the paving slabs within this cell, although it is possible that it simply represents the same deposit recorded over many of the other stage 3 slabs and within the stage 4 wall core, and represents redeposited material from the stage 3 conflagration. Whatever the function of this cell, whether for storage or some private or specialist activity, its presence clearly displays formal organisation of internal space within the stage 4 roundhouse.



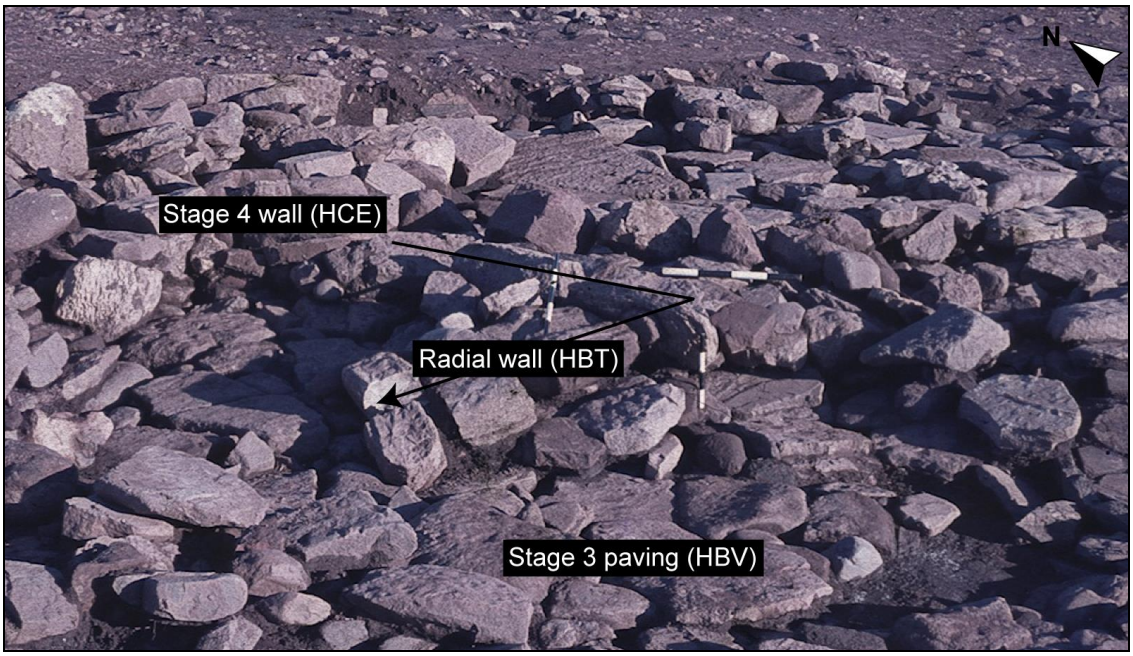


Fig. 4.84 The stage 4 radial wall (plan (not to scale, taken from HBT context card) copyright The Broxmouth Project; photograph: Broxmouth archive)

4.7.5 ***Stage 5: Abandonment***

After the abandonment of House 7, the house-stance became infilled with deposits which survived to a depth of roughly 0.5m under the ploughsoil (Fig. 4.85). As with the other Phase 6 roundhouses, these are not well recorded, but stones appear to have formed a large component. Many of these may represent the collapse of the roundhouse walls, although some, apparently more deliberately laid stones, indicate more formalised abandonment. Human bone (fragment 1; Table 4.17) from this deposit returned an AMS date of 40 cal. BC- cal. AD 130 (SUERC-24261), whilst a conventional radiocarbon date of 170 cal. BC- cal. AD 140 (GU-1497) was obtained during the original dating programme (Table 4.19).

Fig. 4.85 Rubble infill of House 7 (photograph: Broxmouth archive).

A significant quantity of material was recorded to general House 7 layer codes, and is thought to derive from this infill material. These include artefacts, such as pottery and antler-working debris, which may simply represent parts of the midden used to infill, or which accumulated within, the house-stance. More unusual artefacts, including an unabraded sherd of samian pottery (SF142) and a fragment (1) of human bone, the latter possibly curated prior to deposition (Tables 4.17 and 4.18; Fig. 5.35, section 5.4.2), may however have been deliberately deposited during the structured abandonment of House 7 (Table 4.18).

Frag.	Context	Element	Age	Sex	Pathology	Lab. Code	Date (cal., 95.4%)
1	Terminal infill	Radius	Adult	?	Peri-mortem fracture	SUERC-24261	40 cal. BC- cal. AD 130

Table 4.17 Human remains recovered from the terminal infill of House 7 (based on Armit *et al* 2013).

4.7.6 ***Artefacts***

Stage	Feature	Context			Artefact type	Find no.	Artefact description
1(-4)	Entrance posthole	HAE			Worked antler	SF471	Misc.: frags. (joining) of hollowed antler beam
						SF473	Prepared beam strip?: all edges broken, worn, charred
		HAG	01		Worked antler	SF503	Debris (spall): burnt
1	Posthole	HEI	02		Worked stone	SF1014	Hone: D-sectioned. Carboniferous micaceous sandstone.
		HFU	01		Worked stone	SF1023	Hone (2 frags.): one face abraded. Carboniferous fine-grained micaceous sandstone.
		HEO	01		Rubbing stone	SF901	Rubbing stone. Quartz dolerite.
	Depression	HEK	01		Pottery	V132	1 frag.: coil-constructed, unsmoothed (Type 1)
	Pit	HDS	Upper (02)		Worked antler	SF209	Handle (frag.): cylindrical, surface polished, some knife-cuts
			02/ 03		Worked stone	SF1011	Pivot stone: 3 hollow, 1 smooth with concentric striations from rotational wear. Sandstone.
			Lower (03)		Quern (Rotary)	SF948	Lower (40-45%): broken socket, led to discard? Medium-grained carboniferous sandstone.
			?		Quern (Rotary)	SF956	Undifferentiated (c. 25%): no handle-socket, limpet hollowed base. Coarse-grained sandstone.
		HDT	Upper (01)		Worked antler	SF218	Ferrule
		HEN	Middle (03)		Worked bone	SF284	Bead roughout: hexagonal, smoothed perforation
2	Paving	HEA	N/A		Quern (Rotary)	SF961b	Unfinished upper (bun-shaped, 2 frags.): broken during manufacture? Coarse-grained carboniferous sandstone. Diff. weathering of SF961a/ SF961b- diff. post-breakage treatment.
			Seals ph (HHC)		Quern (Rotary)	SF962	Lower? (wedge): saddle?, limpet hollows, damaged. Coarse-grained carboniferous sandstone.
3(-4)	Paving	HBV	Over stage 1 pit	HEN	Worked stone	SF965	Misc. (resembles lower rotary but no such use): limpet hollows and natural pitting.
					Quern (Saddle)	SF911	Saddle (frag.): sub-rectangular. Lower old red sandstone (coarse grit, frags. igneous rock)
				HDS	Quern (Rotary)	SF936	Upper (disc-shaped, almost complete): much of grinding face lost. Medium-grained carboniferous sandstone, limpet hollows. Deposited grinding face down, hollows showing.
4	Wall	HCE			Pottery	V131	1 body (Type 2)
						V130	1 body (Type 2)
					Worked stone	SF999	Hollowed (c. 2/3): sub-rectangular block, broken across edge of scoop. Sandstone.
	Between faces (wall core)	HCE (behind)			Rubbing stone	SF918	Rubbing stone: two spalls detached. Old Red Sandstone? (grit stone with igneous rock).
		HDC02 / HCF			Quern (Rotary)	SF952	Lower (complete, 2 joining frags.): striations from extensive use. Medium-grained carboniferous sandstone. Deposited grinding face down.
	Btwn s1(-3)/ 4 walls	HCE02/ HCG			Worked stone	SF1013	Hone: one face abraded ; grooves prob. damage, not wear. Fine grained carboniferous sandstone.
5	Terminal infill	HAB02			Pottery	V128	1 body
						V129	1 base (flat) (Type 2)
					Samian pottery	SF142	1 body (lower), 1 footring frag.: Gaulish Dr. 37, trimmed down, early Antonine
					Worked antler	SF426	Discarded antler tine: one punchmark
					Worked bone	SF166	Needle: smoothed biconical perforation, sub-rectangular-sectioned shank
					Iron	SF586	Staple?: U-shaped, deliberately cut to release
	N/A				Worked bone	SF490	Undiagnostic frag.: no toolmarks

Table 4.18 Artefacts recovered from House 7

4.7.7 ***Chronology***

Eight samples were selected for AMS dating of House 7, in addition to a fragment (1) of human bone (Table 4.19) and an existing conventional radiocarbon date, both from the terminal infill deposit. Unfortunately, the two samples selected from the stage 3 hearth (HBS) failed to yield results through insufficient preservation of collagen.

Stage	Context		Lab code	Sample	Date (BP)	Date (cal., 95.4%)
1(-4)	N (inner) entrance posthole (HAE01)		SUERC-33749	Pig bone	2030±30	160 cal. BC- cal. AD 60
			SUERC-33750	Animal bone	2070±30	180 cal. BC- cal. AD 10
1	Pit HDS	Lower (03)	SUERC-33751	Cattle bone	1960±30	40 cal. BC- cal. AD 130
		Upper (02)	SUERC-33752	Sheep/goat bone	1935±30	cal. AD 1-130
3	Hearth (HBS)		N/A (GU-23631)	Animal bone	Sample failed (insufficient collagen)	
			N/A (GU-23632)	Animal bone		
4	Outer face/ wall-core (HCF)		SUERC-33756	Cattle bone	1965±30	50 cal. BC- cal. AD 120
			SUERC-33757	Cattle bone	1955±30	40 cal. BC- cal. AD 130
5	Terminal infill (HAB02)		SUERC-24261	Human bone (frag. 1)	1950±30	40 cal. BC- cal. AD 130
	Terminal infill		GU-1497	-	1980±60	170 cal. BC- cal. AD 140

Table 4.19 AMS, and conventional radiocarbon (blue shading), dates for House 7 (after Hamilton *et al* in press, 2013).

AMS dates illustrate that House 7 is broadly contemporary with the other Phase 6 structures. Incorporation of two halves of the same unfinished rotary quern (SF961b and SF951a) into the stage 2 paving (HEA) of House 7 and paving (HIA) associated with the interior Phase 6 roadway, suggest contemporary constructional episodes. The unabraded condition of the Antonine samian sherd (SF142) suggests that it was not curated and that House 7 was abandoned and infilled some time during the mid-second century AD. AMS dates could not be modelled for House 7 specifically but were included in the modelling of the likely date and duration of the Phase 6 settlement more generally (Hamilton *et al* in press, 2013).

4.8 **House 8**

House 8 is located north of House 7 and south of House 2, in the centre of the surviving settlement (Fig. 4.86). House 8 represents some of the earlier Phase 6 activity in this area, and was later overlain by paving which appears to relate to a widening or realignment of the arterial road through the settlement. This paved surface truncated much of House 8 and it is therefore less well preserved than the other Phase 6 roundhouses.

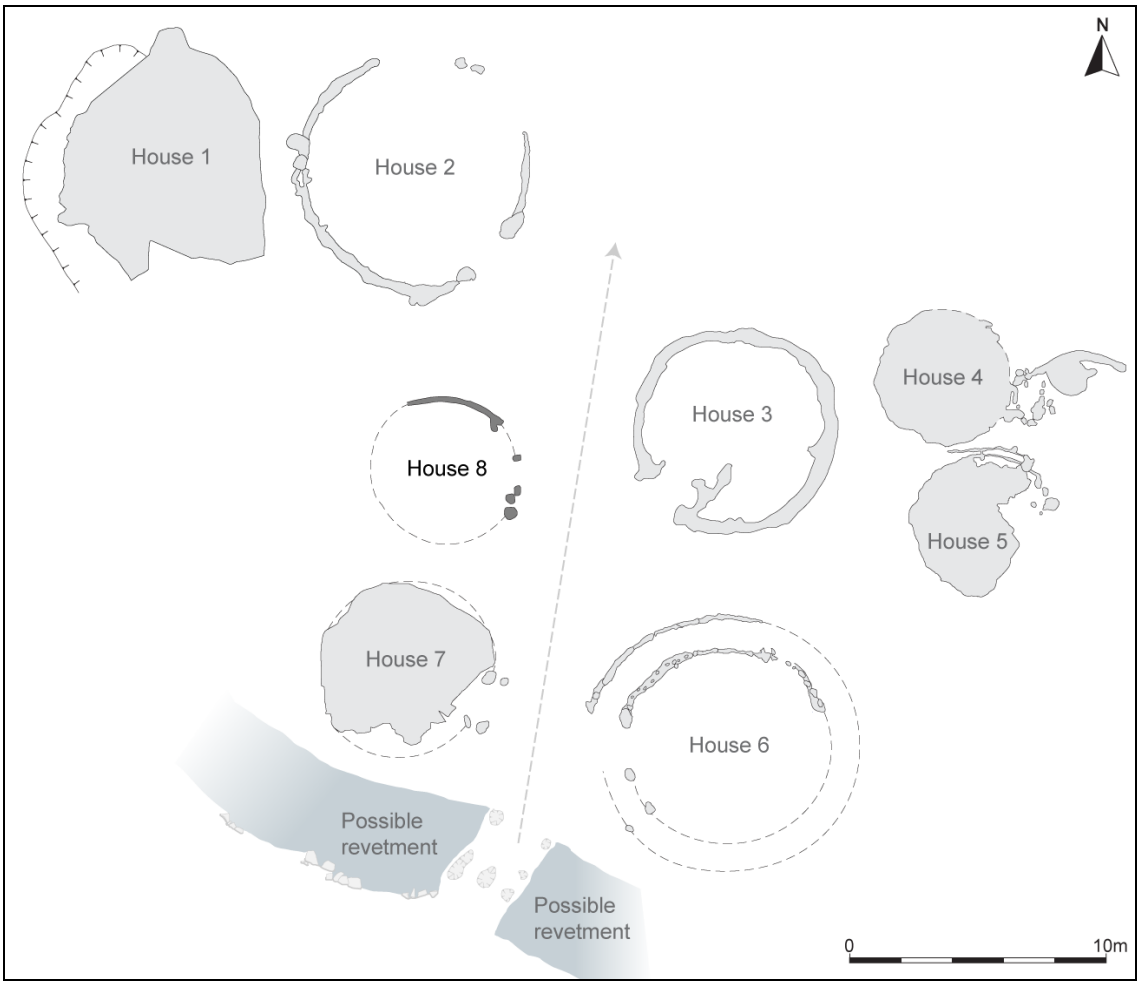


Fig. 4.86 Schematic plan showing the relative position of House 8 in the Phase 6 settlement at Broxmouth (image copyright The Broxmouth Project).

4.8.1 ***Description***

Wall

House 8 is defined by a ring-groove (HIM; 0.2m wide x 0.1m deep), which survives for a length of 5m in the north and east of its circuit, and which has a projected diameter of 7m (38.5m^2; Fig. 4.87). Though described as 'very scrappy' (site book), it included several packing stones, suggesting that it supported a timber wall. Two samples from the ring-groove returned AMS dates of 170 cal. BC- cal. AD 50 (SUERC-36068) and cal. AD 20-140 (SUERC-36069) respectively (Table 4.21). A long slot (HAX; 8.3m) cut across the projected line of the wall-slot in the south-east of its circuit (Fig. 4.87), and could, if contemporary, have been associated with drainage; similar enigmatic features are known from Burradon, Northumberland and West House, Co. Durham (Haselgrove and Allon 1982; Jobey 1970b).

Entrance

An east-facing entrance (1.2m wide) is defined by two substantial postholes (1 and 2, Figs. 4.87 and 4.88), which flank an orthostatic doorsill, similar to that in stage 4 of House 4 (section 4.4). A second orthostat associated with a small length of ring-groove, recorded only in photographs (Fig. 4.88), lies to the north-east of the first; its relationship with House 8 is unclear. The House 8 ring-groove terminates approximately 0.3m north of the roundhouse entrance, leaving a substantial gap in the wall-line (Fig. 4.89); again, the function of this is unclear. Two substantial postholes (HJT, HJJ) lie on the projected line of the wall-slot south of the entrance and, given their large size, may represent entrance furniture. A large pit (HJS; 0.7m diameter, c. 0.4m deep), lying 0.3m

inside the entrance must have been covered in some way if contemporary with House 8, so as not to impede access into the structure.

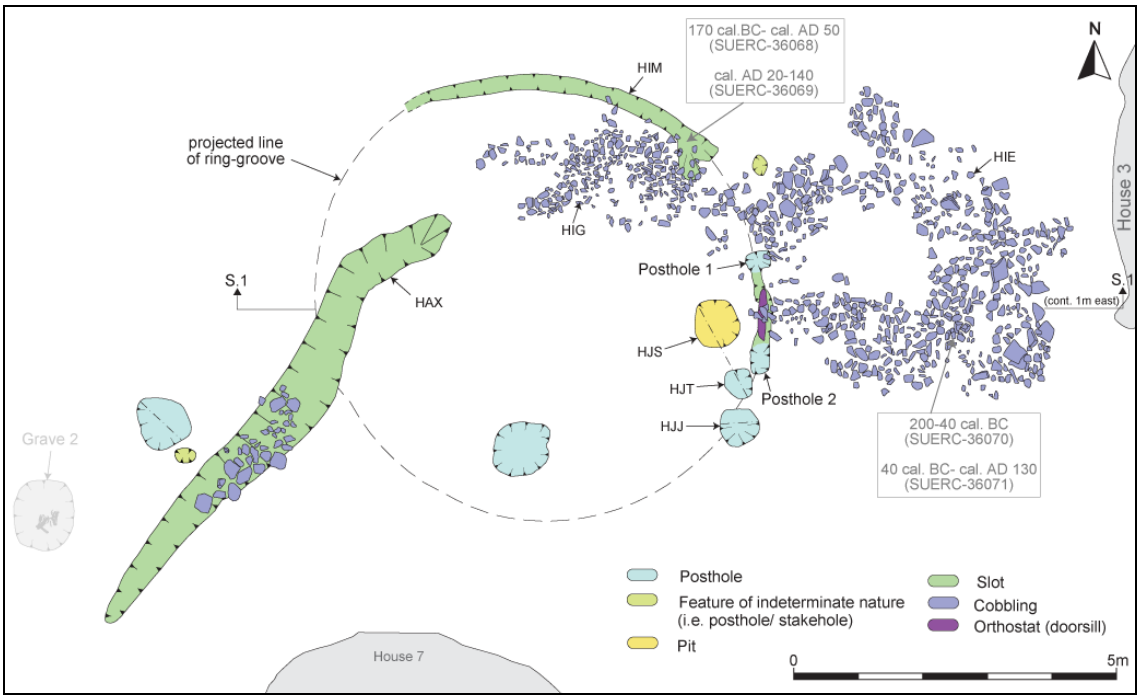


Fig. 4.87 Features associated with House 8 (image copyright The Broxmouth Project).

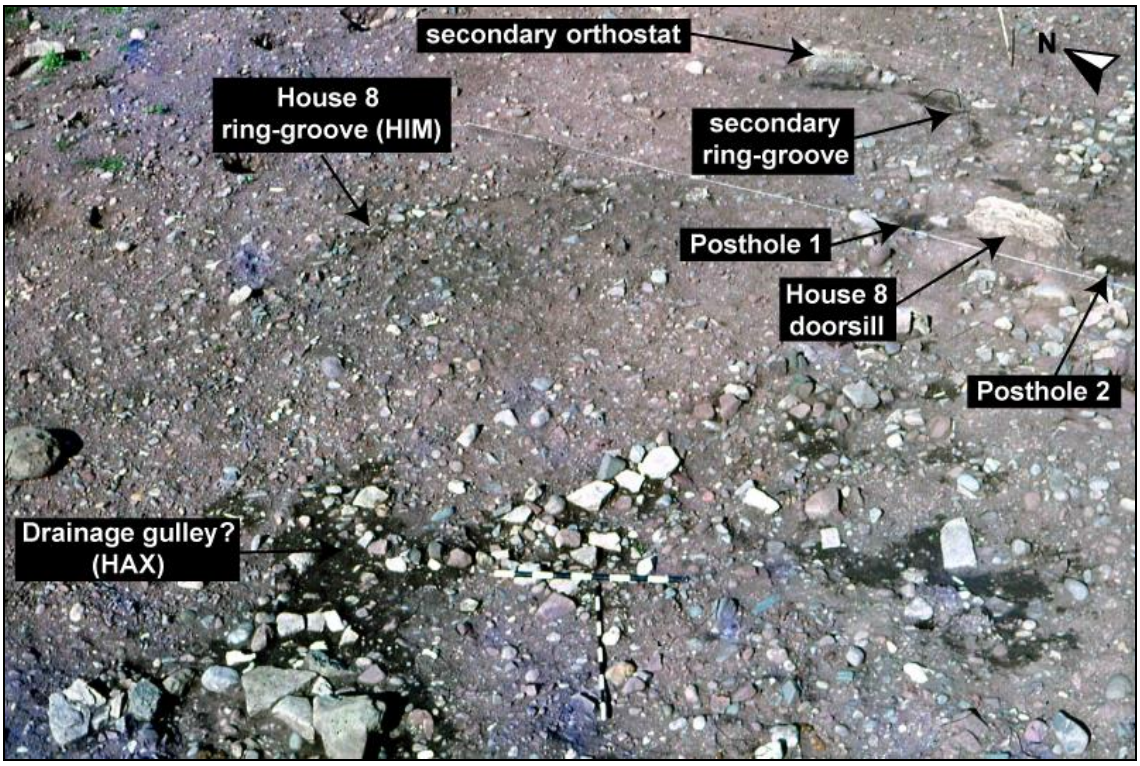


Fig. 4.88 The east-facing entrance of House 8, with the secondary orthostat and length of ring-groove visible to the north-east (photograph: Broxmouth archive).

Floor and yard surfaces

A small area of cobbling (HIG) abuts the House 8 ring-groove in the north-east of the structure (Fig. 4.87) and likely represents the truncated remains of a contemporary floor surface. Another area of cobbling (HIE), lying to the east of the House 8 entrance (Fig. 4.87), may represent an external yard, similar to that proposed for House 4 (see section 4.4.3). Alternatively, it is possible that this cobbled surface, which on plan appears to overlie the House 8 entrance slightly, may be a later deposit, representing a foundation for the subsequent paved roadway, which was laid across this area. Two samples of animal bone taken from the cobbled surface (HIE) returned AMS dates of 200-40 cal. BC (SUERC-36070) and 40 cal. BC- cal. AD 130 (SUREC-36071; Table 4.21).

4.8.2 ***Artefacts***

Feature	Context		Artefact type	Find no.	Artefact description
Cobbling (yard/ road foundation)	HIE	02	Worked antler	SF315	Misc. fitting: notch suggests something was lashed to it
		N/A	Quern (Rotary)	SF968	Unfinished (roughout?, early stages). Medium-coarse-grained carboniferous sandstone.
		N/A	Quern (Saddle)	SF963	Saddle?: five frags. (2 from grinding face).

Table 4.20 Artefacts recovered from features associated with House 8

4.8.3 ***Chronology***

Two samples were selected for AMS from the House 8 ring-groove (HIM), and two from the cobbling (HIE) to the east of the doorway; the latter either represents a contemporary yard surface or a later foundation for the paved roadway (Table 4.21).

Stage	Context		Lab code	Sample	Date (BP)	Date (cal., 95.4%)
House 8	Ring-groove (HIM)		SUERC-36068	Horse bone	2040±30	170 cal. BC- cal. AD 50
			SUERC-36069	Cattle bone	1910±30	cal. AD 20-140
House 8 or later	Cobbling (HIE)- House 8 yard or road foundation		SUERC-36070	Sheep/ goat bone	2095±30	200-40 cal. BC
			SUERC-36071	Animal bone	1955±30	40 cal. BC- cal. AD 130
Roadway (realigning/ widening)	Paving over H8	HIA	SUERC-36067	Animal bone	1890±30	cal. AD 50-220
		EBO	SUERC-36072	Animal bone	1880±30	cal. AD 60-230

Table 4.21 AMS dates for House 8 (after Hamilton *et al* in press, 2013). Dates for the later paved roadway which overlay House 8 (grey shading) have been included for comparative purposes only.

The relatively poor preservation of House 8, and the subsequent constraint on the selection of samples for AMS dating, does not allow for detailed discussion of the chronology of this structure. The dates do however confirm a Phase 6 affiliation for House 8, whilst the widening/ realignment of the interior roadway over this structure (section 4.9.2) suggests that it may have been one of the earlier structures to be abandoned within the Phase 6 settlement. Since conjoining quern fragments (SF961a and SF961b) were deposited within the paving (HIA) overlying House 8 and in the stage 2 paving (HEA) of House 7, it is likely that House 8 predates the latter structure. AMS dates could not be modelled for House 8 specifically but were included in the modelling of the likely date and duration of the Phase 6 settlement more generally (Hamilton *et al* in press, 2013).

4.9 **Interior roadway**

4.9.1 ***Stage 1: The early road and timber gateway***

The location and orientation of the roundhouses within the Phase 6 settlement attest to the presence of an interior roadway running between them, from an access point through the South-west Entrace (Fig. 4.90), with the roundhouse entrances orientated so that each structure fronts onto this routeway (Fig. 4.89).

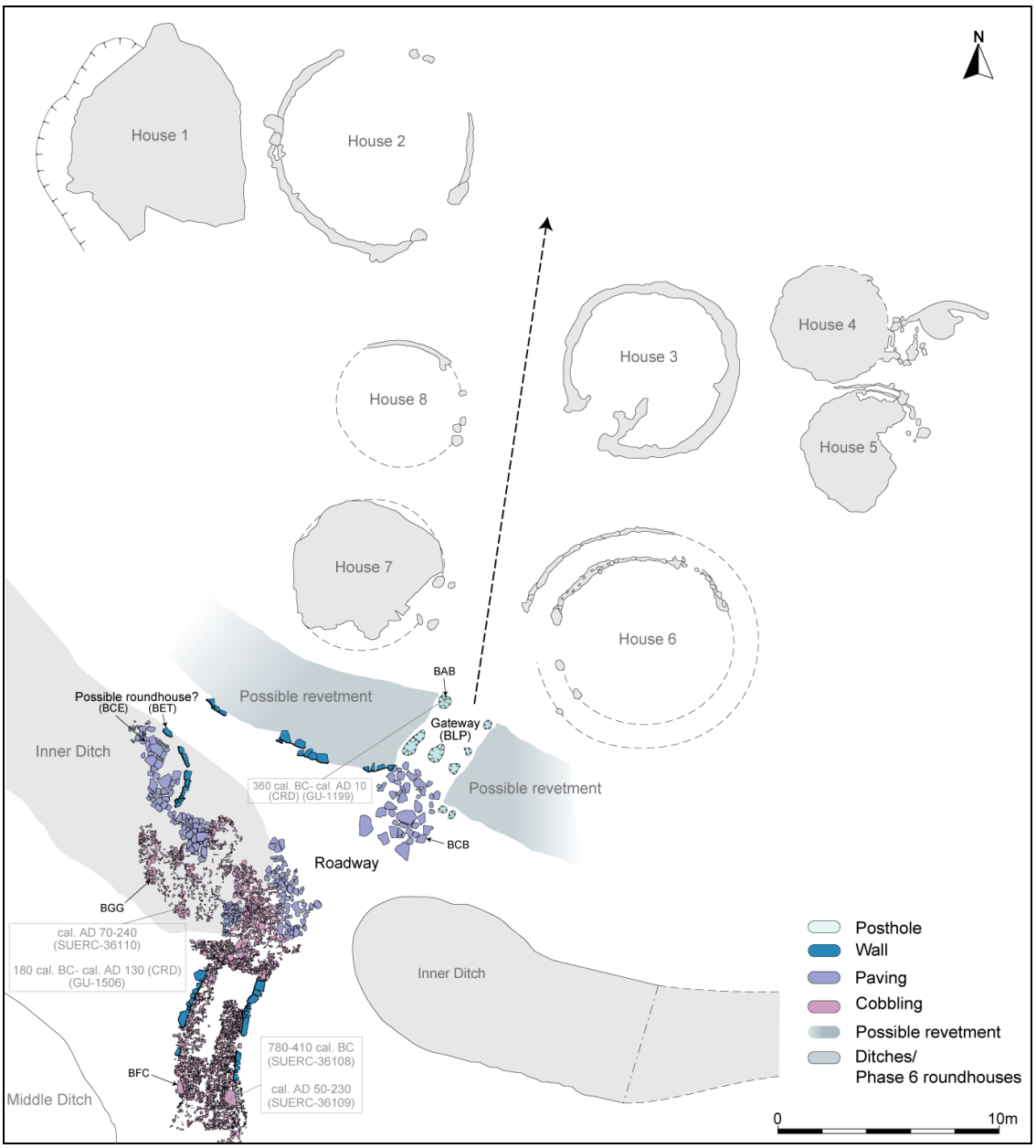


Fig. 4.89 Likely route of the early (stage 1) Phase 6 roadway into the settlement interior (image copyright The Broxmouth Project). Grave 3 lies beyond the southern extent of this plan, close to the northern terminal of the Middle Ditch (bottom left).

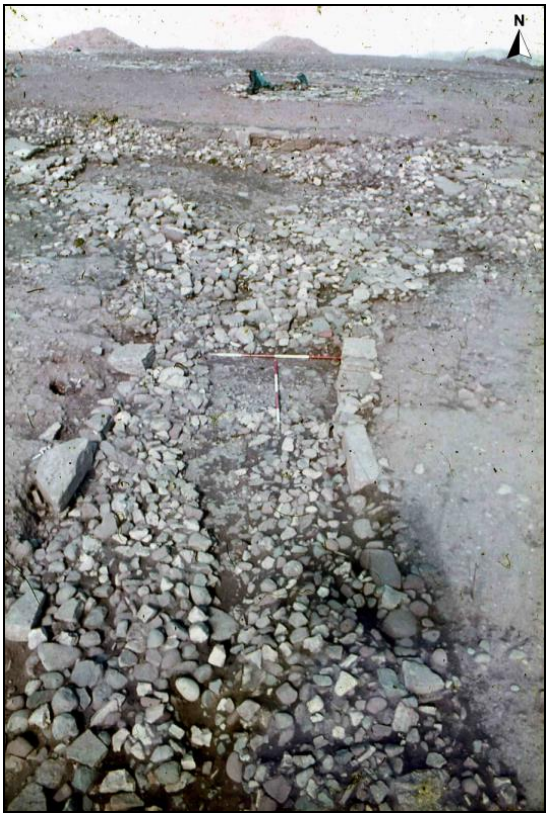


Fig. 4.90 The cobbled road, flanked by lines of walling revetting the earthen bank, running through the South-west Entrance into the settlement (photograph: Broxmouth archive).

The construction of a stone-revetted bank, surviving only at the South-west Entrance, would, together with the timber gateway (Fig. 4.91), have monumentalised this point of entry and, if enclosing the Phase 6 settlement entirely, would have restricted access to this point alone; conversely, the metalled surface which runs along the front of the revetment (see remnants in Fig. 4.91) might suggest the presence other access points on the north and west. Interestingly, an arc of stone walling (BCE), bounding a paved surface (BET), appears to represent the partial remains of a further house-stance (Fig. 4.89, bottom left), constructed to the north-west of the roadway over the infilled Inner Ditch; this may suggest a more extensive Phase 6 settlement, elements of which may have been located outside of the proposed enclosure.

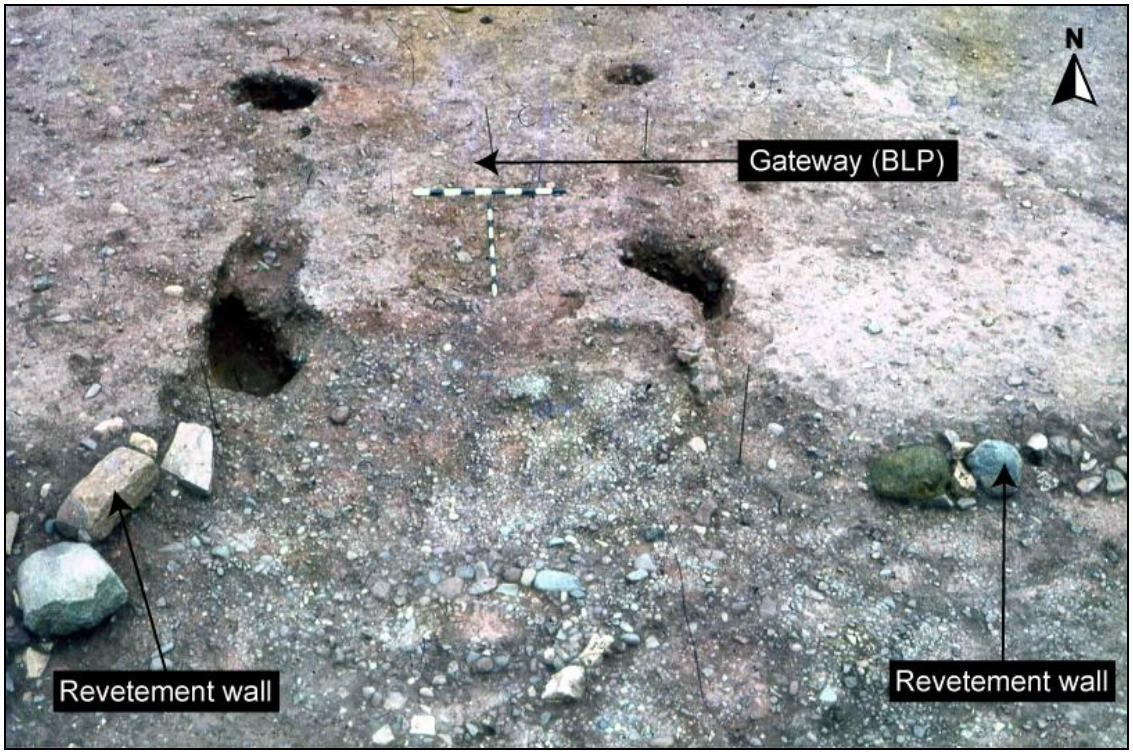


Fig. 4.91 The timber gateway at the South-west Entrance (photograph: Broxmouth archive).

A cist (Grave 3; Fig. 4.92) containing a crouched, female inhumation (16-18 years old; Armit *et al* 2013) lay on the line of this roadway (south of the extent of the plans shown in Figs. 4.89 and 4.93), such that the slabs forming the sides of the grave protruded up through the road surface (Fig. 4.92) and would have been visible to those travelling along it; as such, the burial may have formed part of the structured foundation of one of the (Phase 5/ 6) road surfaces. The modelled dates for this individual are *365-165 cal. BC* (at 95% probability) and *355-190 cal. BC* (at 68% probability; Hamilton *et al* in press, 2013), suggesting deposition in Phase 5, or curation of the body into Phase 6.

Fig. 4.92 Grave 3, the cist slabs of which would have protruded through the Phase 6 metalled roadway, presumably visible to those travelling along it (photograph: Broxmouth archive).

4.9.2 ***Stage 2: Widening/ realignment of the roadway***

Cobbled and paved surfaces overlying House 8 (Figs. 4.93-4.95) suggest that the interior road was widened or realigned after its abandonment; the function of the cobbling (HIK/ EAQ) in the north-west is unclear. It is likely that this paving extended the length of the road, prior to robbing and plough truncation. The timber gateway shows no sign of replacement or repair, suggesting that it was in use for only a short time; if constructed at the beginning of Phase 6, it may have been abandoned by, or at, the time the road was widened or realigned.

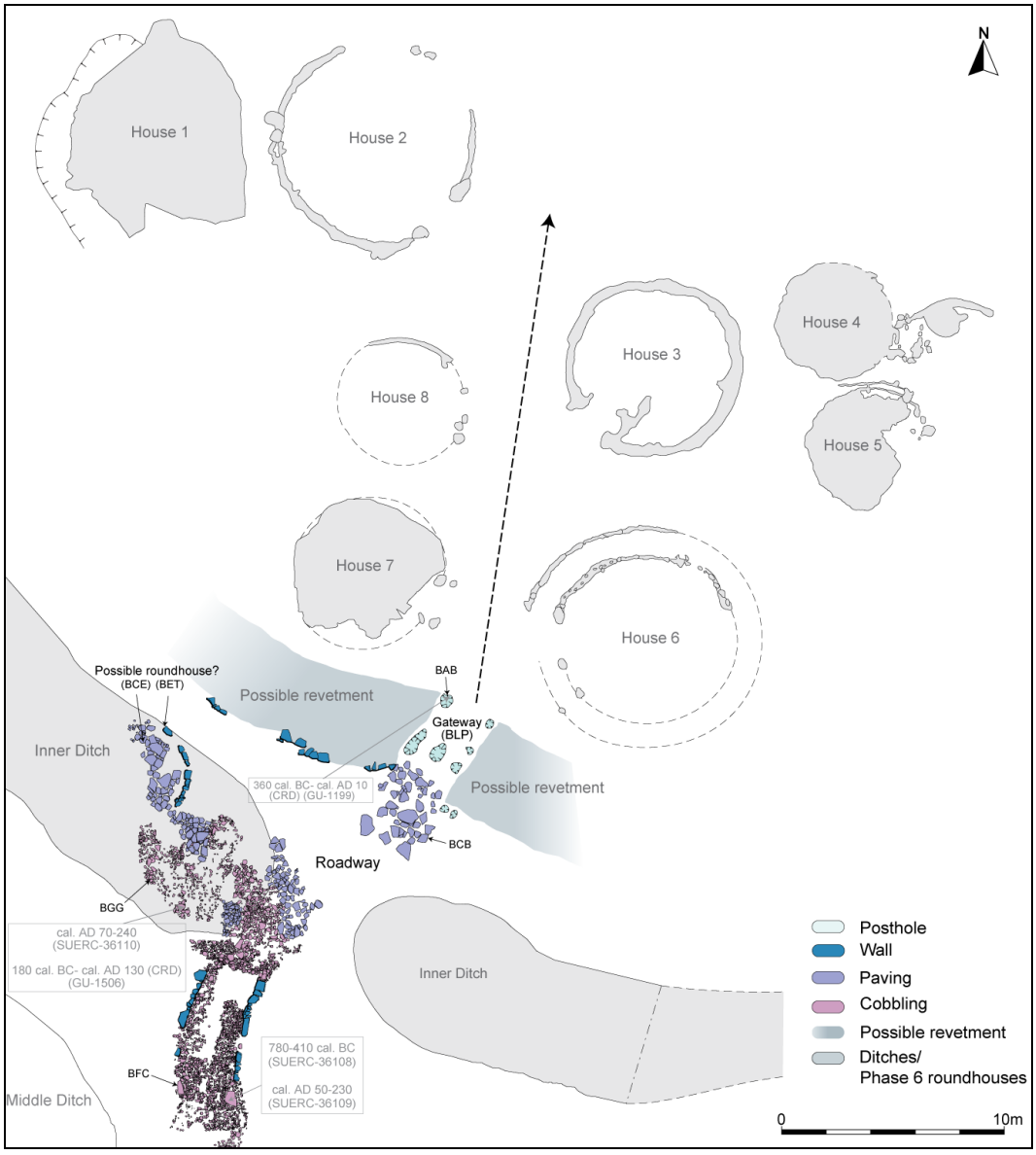


Fig. 4.93 The widened/ realigned (stage 2) interior roadway represented by the paved surfaces overlying House 8 (image copyright The Broxmouth Project).

Fig. 4.94 Detailed plan of stage 2 roadway paving (image copyright The Broxmouth Project).

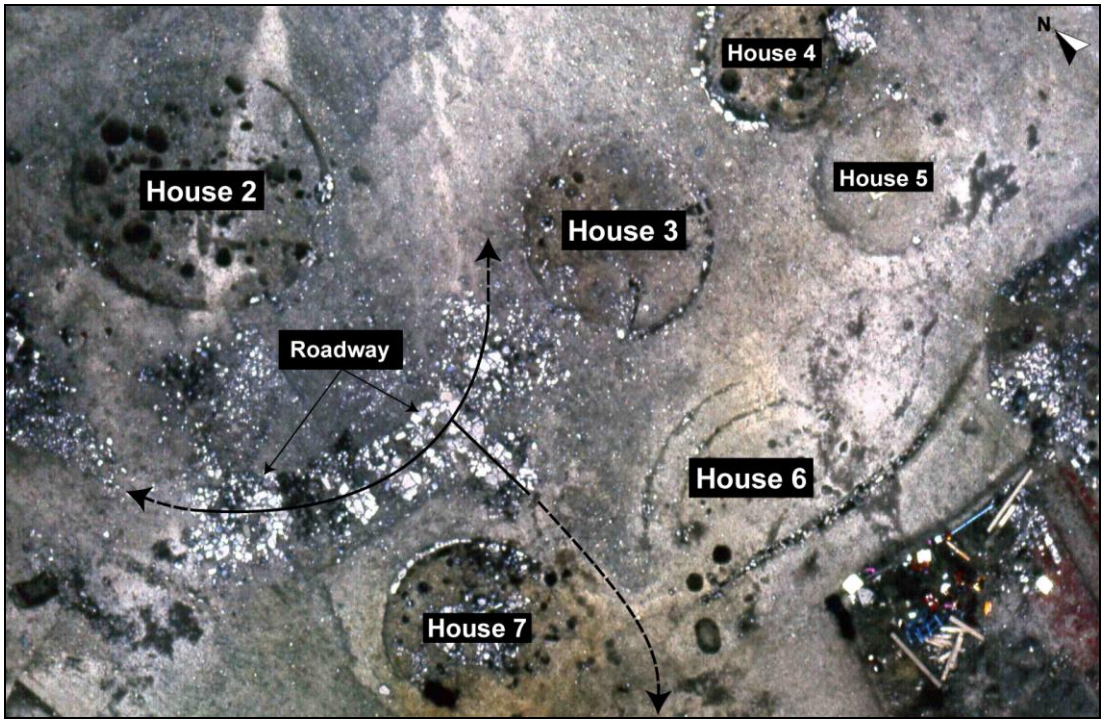


Fig. 4.95 The paved widened/ realigned (stage 2) of the interior road, running east-west between the houses-stances (photograph: Broxmouth archive).

At least one posthole (HJA) appears to be associated with this surface, since it is respected by the paving slabs (Figs 4.94 and 4.96); posthole HJD may also have been retained. Several pairs of postholes and stakeholes (Fig. 4.94), which flank the south of this surface may have held free-standing posts.

Fig. 4.96 Posthole HJA, respected by the paved road surface (HIC) and thus apparently contemporary with it (photograph: Broxmouth archive).

4.9.3 ***Stage 3: Abandonment***

The latest recorded deposit in this area is a large spread of midden material, sealed by topsoil. This deposit is not well recorded in plan but is described as overlying cobbled surface HIK/ EAQ and spreading north-westwards towards House 1. The maximum extent of this material is unclear but the original excavators (Hill 1995) suggested that it was contiguous with the uppermost deposit in the *south* of this area, whilst several artefacts recorded to this context (Table 4.23) were recovered from *north* of paving EBO; this suggests that this deposit overlay most of the paved roadway in this area. It is unclear whether this material represents a deliberate deposit of midden during abandonment of the road, or whether simply represents the lowermost levels of ploughsoil.

4.9.4 ***Artefacts***

Stage	Feature	Context	Artefact type	Find no.	Artefact description
1/2	Cobbling	HII	Pottery	V133	1 body (Type 1)
	Paving (under)	EBO	Worked antler	SF466	Misc.: cancellous tissue hollowed
		HIC	Iron	SF551	Fitting/ fastening: square-sectioned bar, hooked end, for clamping round an object
2	Paving	HIA	Quern (Rotary)	SF961a	Unfinished upper (bun-shaped, 2 frags.): bowl-shaped hopper, unfinished conical feeder-pipe may have broken during manufacture, no handle socket. Coarse-grained carboniferous sandstone. Other frag. (SF961b) in stage 2 paving (HEA) of House 7: differential weathering indicates differential depositional contexts.
			Rubbing stone	SF923	Frag.: sub-rectangular, no manufacture, fractured. Quartz dolerite.
		HIC	Worked bone	SF249	Splinter point: broken, abraded to shape, heavy tip, facetted, some use-polish
			Quern (Rotary)	SF951	Lower (complete): conical spindle-socket, damaged grinding face, base has 8 linear scars (2 are manufacture/ post-depositional damage). Coarse-grained, micaceous, carboniferous sandstone. Deposited grinding face down.
				SF970	Unfinished (bun-shaped roughout?): 2 edges lost. Coarse-grained sandstone. Deposited grinding face down.
		HIH	Worked stone	SF1016	Whetstone: D-sectioned, abraded. Conglomeritic ?Old Red Sandstone.
			Quern (Rotary)	SF938	Upper (35%, disc-shaped): broken feeder-pipe, upper surface unmodified, broken across horizontal handle-socket, concave band of abrasion (20mm from edge) suggests that some time after use as an upper stone, used as a lower stone with a smaller upper stone. Medium-coarse-grained carboniferous sandstone.
		HIK	Worked bone	SF217	Spearhead (re-used as ferrule?): broken from use?, cont. use of broken end (polish)

Table 4.22 Artefacts associated with the stage 2 paved roadway (and cobbling directly under it)

Stage	Deposit	Artefact type	Find no.	Artefact description
3	DIO	Pottery	V94	2 rim (inturned), 6 body (globular): sooted (Type 1?)
			V95	1 body: coil-constructed, 2 grooves on exterior (Type 2)
		Worked bone	SF172	Needle: ends broken, deliberately burnt, abrasion
		Worked antler	SF346	Debris: chop marks above brow tine- projected cut line
			SF422	Handle: tapered D-sectioned perforation
			SF478	Prepared beam segment:?knife marks
			SF460	Prepared strip: knife-trimming
			SF1203	Misc. tool/ handle (roe deer): butt rounded- for comfort?, beam snapped- from use?
			SF1222	Debris (roe deer)
			SF349	Roe deer?: no surviving toolmarks.
		Rubbing stone	SF930	Complete: no manufacture, wear conc. about skirt, deep crack at one end. Deposited grinding face down.
		Stone ball	SF717	Spherical bump on one side is inclusion, red. Sandstone.

Table 4.23 Artefacts recovered from midden (DIO) overlying the paved roadway and associated with its abandonment (stage 3).

4.9.5 ***Chronology***

Seven AMS dates, including two conventional radiocarbon dates from the original dating programme, are available for the roadway (Table 4.24).

Stage	Context		Lab code	Sample	Date (BP)	Date (cal., 95.4%)
1	SW Ent.	Infill of gateway p'hole (BAB)	GU-1199	Charcoal	2105 ±50	360 cal. BC- cal. AD 10
1/2	SW Ent.	Road (N; BGG)	SUERC-36110	Cattle bone	1860±30	cal. AD 70-240
		Midden in road (N; BCB/ BGG)	GU-1505	Animal bone	2005±60	180 cal. BC- cal. AD 130
		Pebble road (S; BFC)	SUERC-36108	Pig bone	2485±30	780-410 cal. BC
			SUERC-36109	Animal bone	1885±30	cal. AD 50-230
2	Int. road	HIA	SUERC-36067	Animal bone	1890±30	cal. AD 50-220
		EBO	SUERC-36072		1880±30	cal. AD 60-230
3 (Infill)	SW Ent.	Midden sealing road (BAX)	SUERC-36111	Sheep/ goat bone	2245±30	400-200 cal. BC

Table 4.24 AMS, and conventional radiocarbon (blue shading), dates for the arterial roadway (after Hamilton *et al* in press, 2013).

Stage 1: South-west Entrance roadway

It is likely that the road through the South-west Entrance continued in use from Phase 3 onwards, with AMS dates of *235-60 cal. BC/ 205 cal. BC- cal. AD 70* (68% probability; Hamilton *et al* in press, 2013) simply representing the latest (Phase 5/ 6) material to survive. Remodelling of the road, with the addition of a revetment and timber gateway, may however have accompanied a more general reorganisation of the settlement at the beginning of Phase 6.

Stage 2: Paved widening/ realignment

The gateway appears only to have enjoyed a short use-life, since it appears not to have been repaired or replaced. Meanwhile, the interior roadway was realigned or widened over House 8. This paving may be contemporary with the stage 2 paving in House 7, since re-fitting fragments (SF961a and SF961b; Fig. 84; Table 4.22) from a quern broken during manufacture, and thus unlikely to have been curated, were deposited in each surface.

4.10 **Other Phase 6 settlement features**

Several features between the house-stances of the Phase 6 settlement were excavated and recorded, though not generally to the same standard as those within the roundhouses. Nevertheless, the investigation of areas outside of house-stances was rare in excavations of the time and reflects Hill's (1984, 82) acknowledgement for the need to study the 'relationship and siting' of buildings within settlements.

Since these features are generally less well recorded than those inside the roundhouses, and a general lack of deposit spreads hamper elucidation of the stratigraphic relationship between spatially isolated features, discussion must necessarily be less detailed. No samples from these features were submitted for AMS dating, due to their spatial isolation from the roundhouses. Fig. 4.97 shows all features recorded within the Phase 6 settlement which do not form part of the discussion of Houses 1-8. Only those features which are adequately recorded to allow for meaningful discussion are included, though their formal association with the Phase 6 roundhouses is unknown.

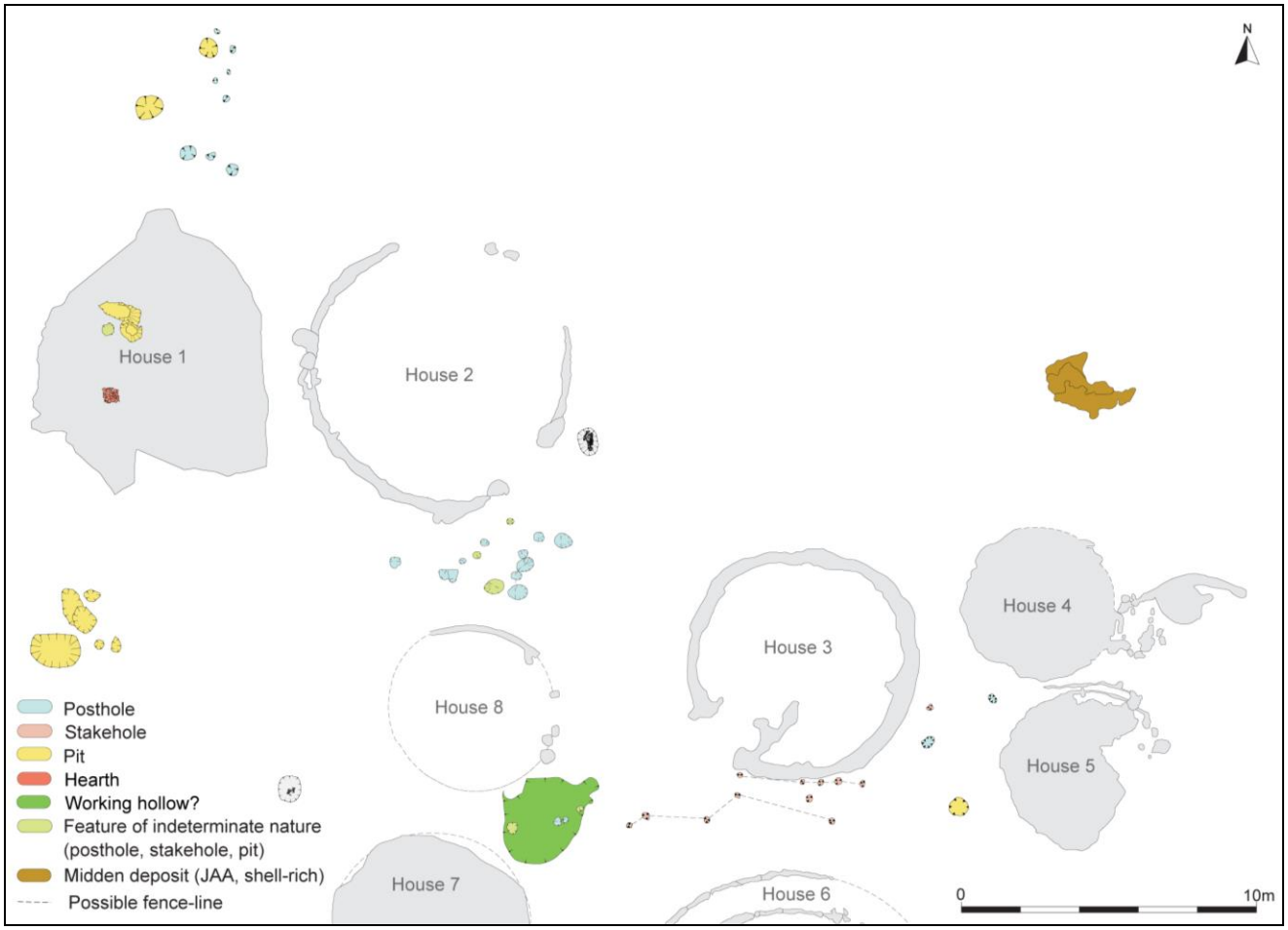


Fig. 4.97 Plan showing features recorded outside the house-stances of the Phase 6 settlement (image copyright The Broxmouth Project); more detailed plans accompany discussion of individual feature groups. The pits and hearth within the area of House 1 are thought to be associated with early Phase 6 (i.e. Layers 3 and 4) activity pre-dating the construction of House 1 and are not discussed further. The Phase 2 graves have been included for reference only.

4.10.1 ***Pits and pit groups***

Several pits are recorded outside the house-stances. Two pit groups flanked House 1, and, together with those underlying this roundhouse, may have been associated with some specialised activity or midden dumping, the latter perhaps represented by the heterogeneous deposit of ash and shell upon which this structure was founded.

The features north of House 1 (Fig. 4.98) are particularly poorly recorded, with no surviving section drawings or artefacts, but several to the south (Fig. 4.99) warrant further discussion.

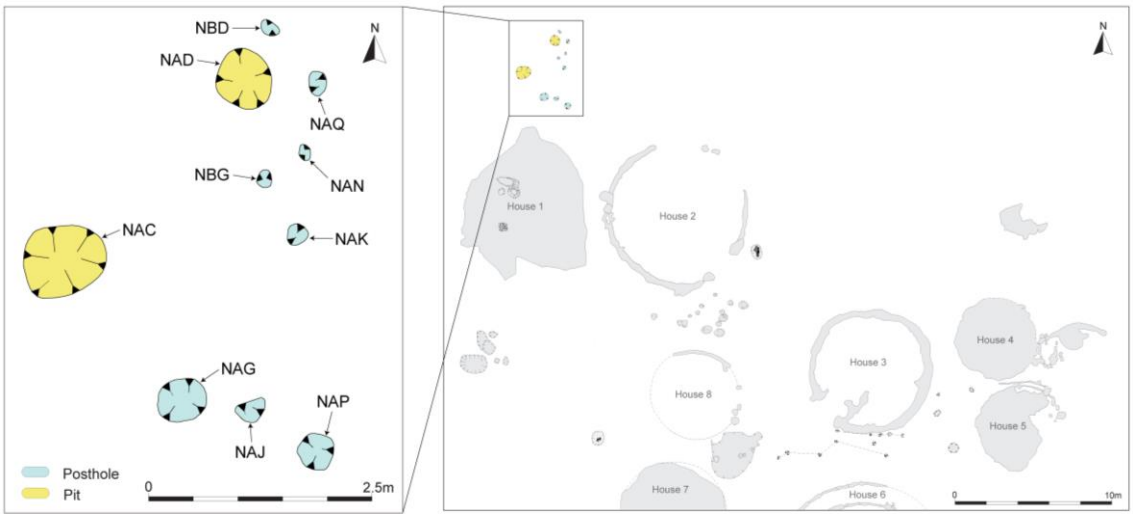


Fig. 4.98 Pits north of House 1 (image copyright The Broxmouth Project).

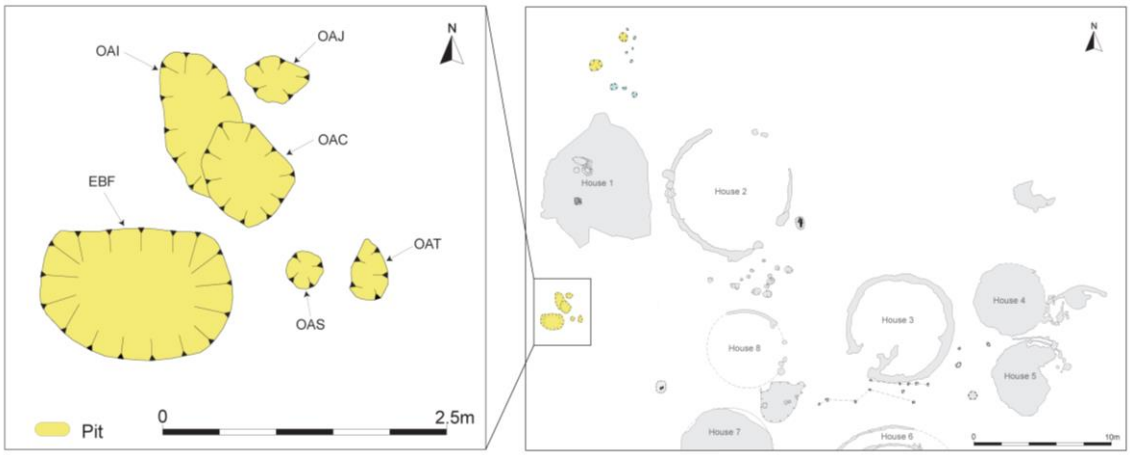


Fig. 4.99 Pits south of House 1 (image copyright The Broxmouth Project).

The first of these features is pit EBF (2.0m long x 1.3m wide x 0.5m deep; Fig. 4.100) which, lined with orthostatic slabs, has the superficial appearance of a cist, though no body was recorded. The pit is predominantly filled with rubble (Fig. 4.101), suggesting that if it did ever contain a body, it must have been removed prior to back-filling with this material. Several distinctive artefacts, including three rotary querns (SF939, SF957 and SF959; Table 4.25; Fig. 4.102) and a fragment of furnace wall (SF1098; Fig. 4.100), were deposited within this pit, and could represent votive deposits, as is suggested for the pits associated with House 6, and the pit (KEM) containing the 'hoard' in House 1. It is possible however that the furnace wall fragment, at least, was redeposited from a Phase 1 context during infilling of the pit, since it overlies the yard surface (associated with Houses A and B; Armit and Kershaw in press, 2013) which produced significant evidence for metalworking (section 3.2.1).

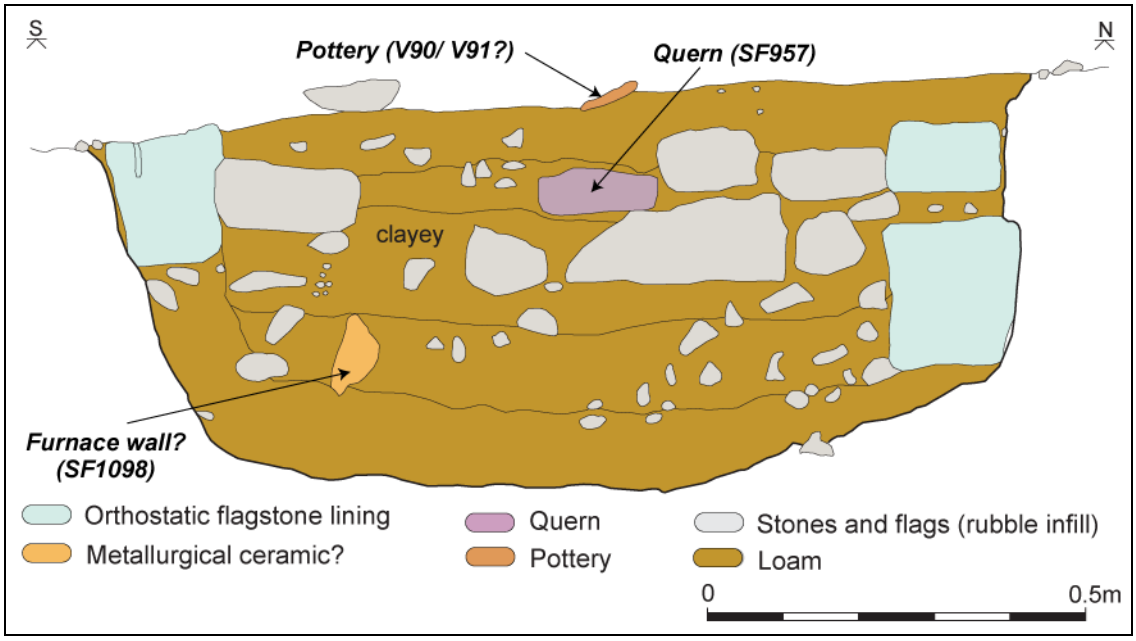


Fig. 4.100 Pit EBF (image copyright The Broxmouth Project).

Fig. 4.101 The rubble infill of pit EBF (photograph: Broxmouth archive).

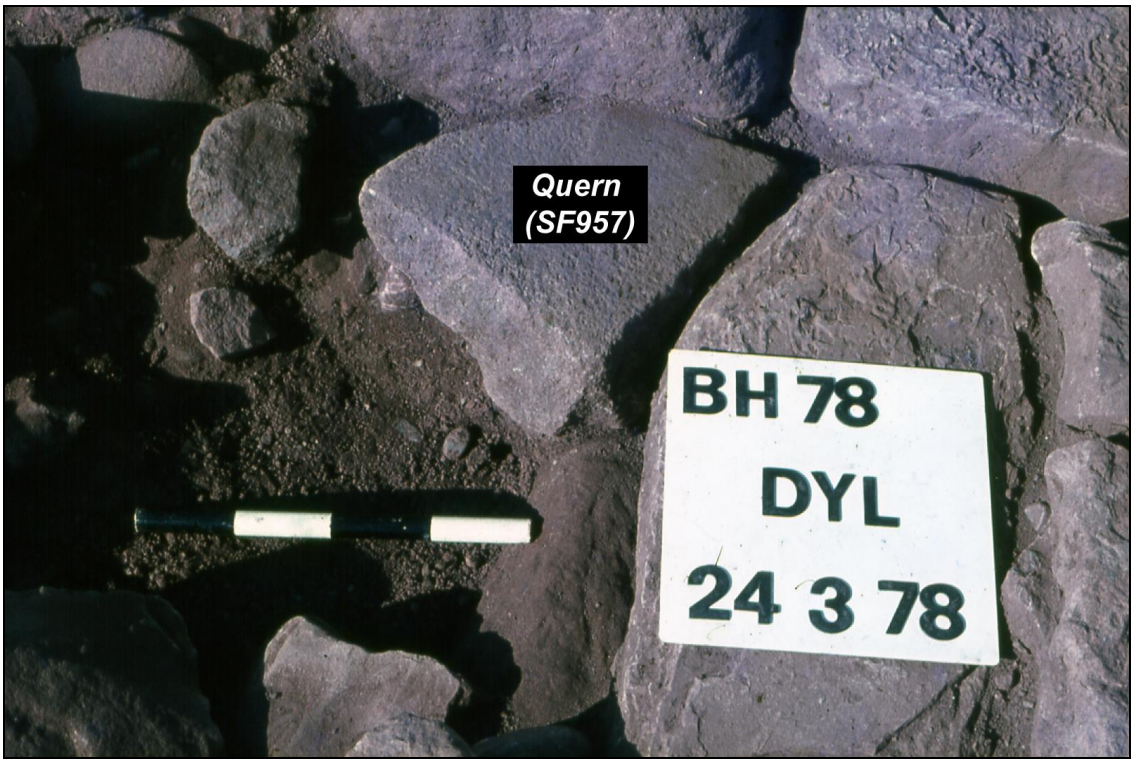
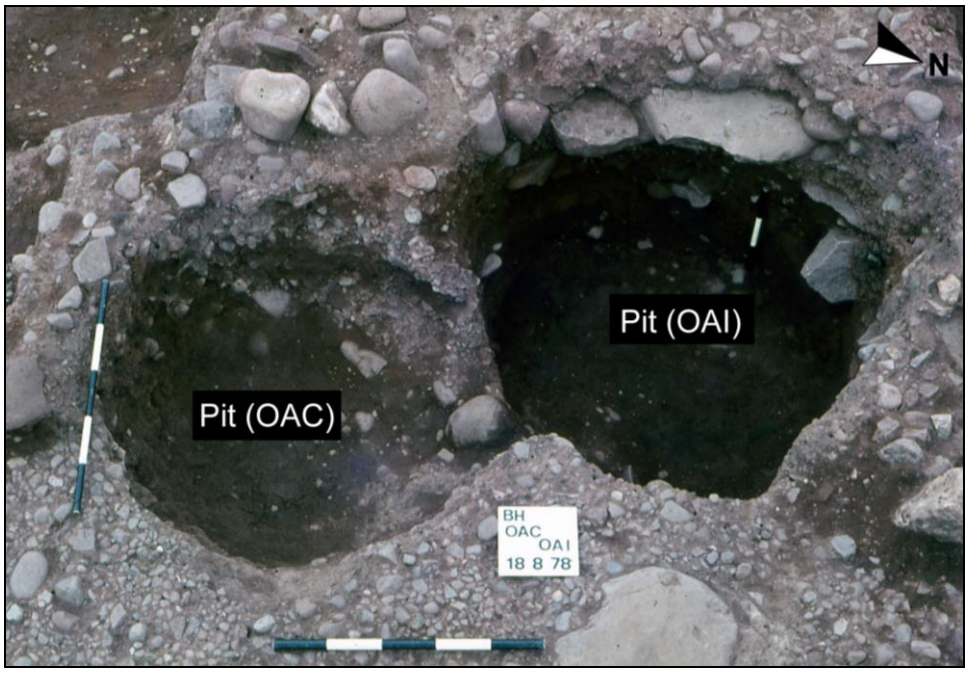


Fig. 4.102 Quern SF957 *in situ* (centre) in the upper fill of pit EBF (photograph: Broxmouth archive).

Two other, inter-cutting, pits in this group (OAC, 1m in diameter x 0.5m deep; OAI, 1.5m long x 1.0m wide x 0.8m deep; Fig. 4.103) also contained distinctive objects (Table 4.25), including a rotary quern stone (SF947, OAI) and a copper alloy penannular brooch (SF517, OAC; both Fig. 4.104). The brooch had been pressed into the last of the clay linings of pit OAC, perhaps immediately prior to/ during infilling, as part of the structured abandonment of this feature; this could also be suggested for the quern in the upper infill of pit OAI.



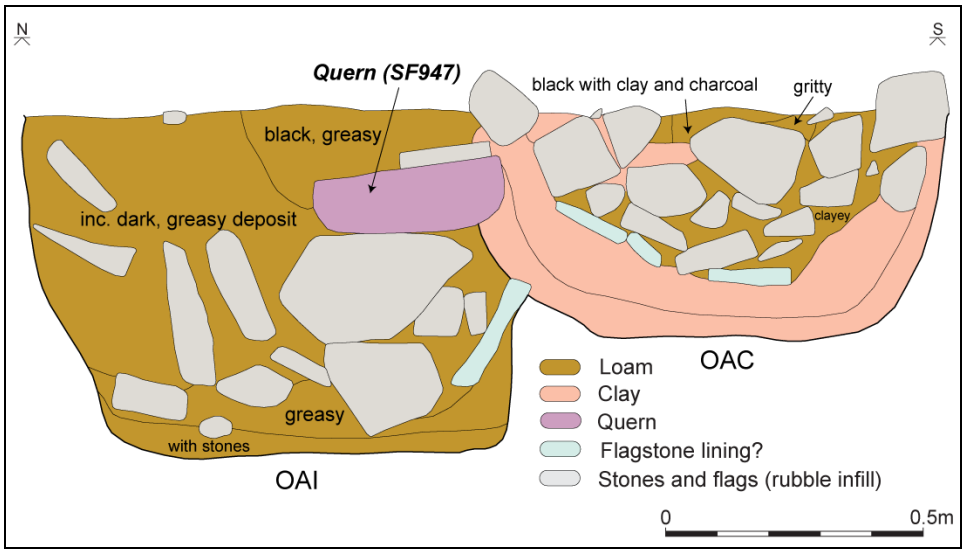


Fig. 4.103 Pits OAC and OAI (photograph: Broxmouth archive; section: copyright The Broxmouth Project).

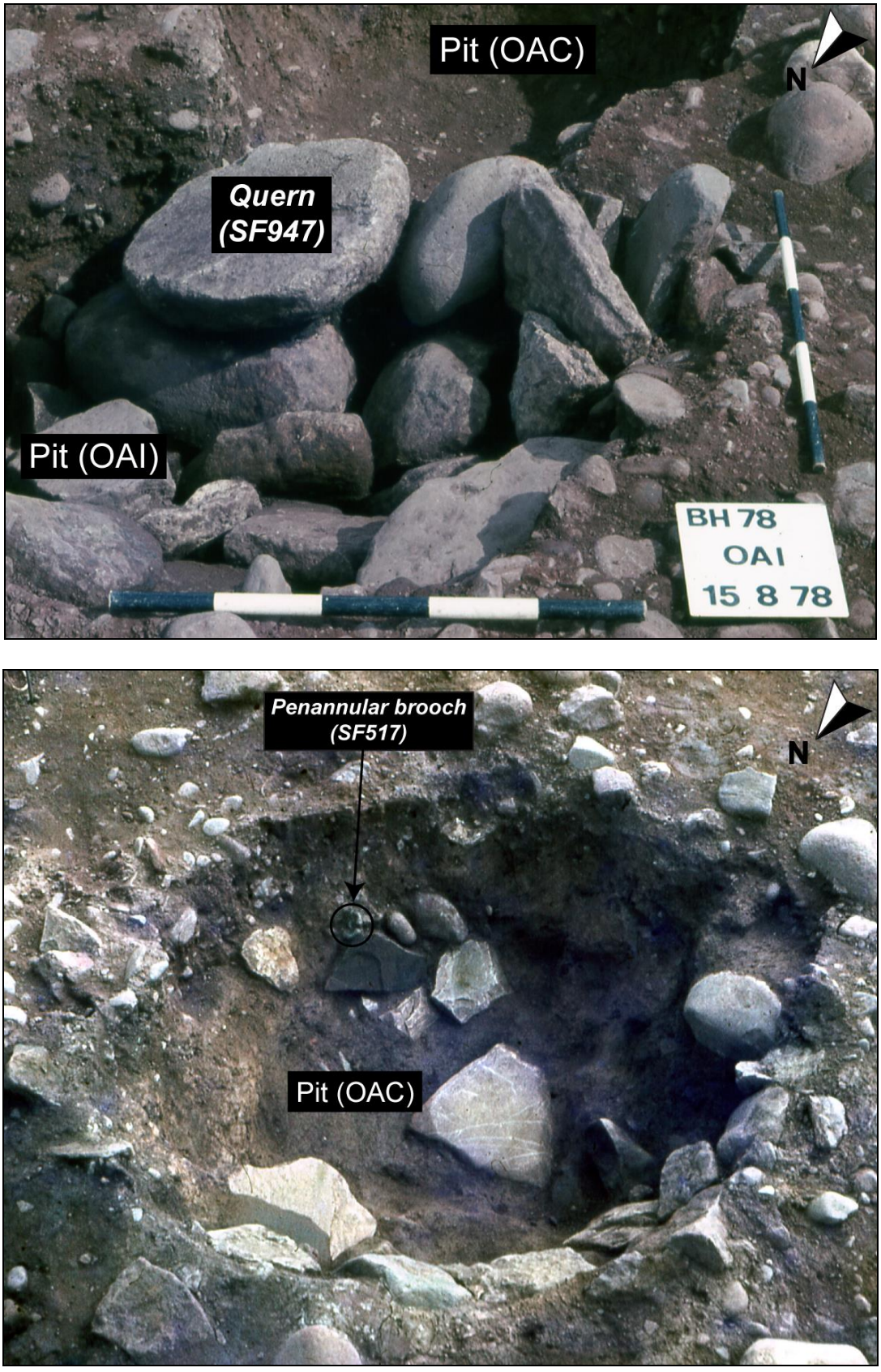


Fig. 4.104 The *in situ* positions of the quern (SF947) and penannular brooch (SF517) in pits OAI and OAC respectively (photographs: Broxmouth archive).

Another pit group lay approximately 4m north of House 4 (represented in Fig. 4.105 by the midden deposit (JAA) which seals it), and comprises two conjoined features (JHN, 1m in diameter x 0.5m deep; JHO, 0.7m in diameter x 0.3m deep; Fig. 4.106). Several other pits and postholes (JHKa, JHL, JHM) are recorded in this area, but are not represented on plan. Like pit OAC south of House 1, both pits have multiple clay-linings, suggesting a significant period of use and several episodes of maintenance, presumably for a function for which a water-tight lining was necessary. The two pits (JHN, JHO) share the same shell-rich, midden infill deposit (JAA; which apparently covered an area larger than the pits themselves, Fig. 4.105), suggesting that they were abandoned contemporaneously. This infill deposit is sealed directly by the ploughsoil, indicating that it represents the last prehistoric activity in this area.

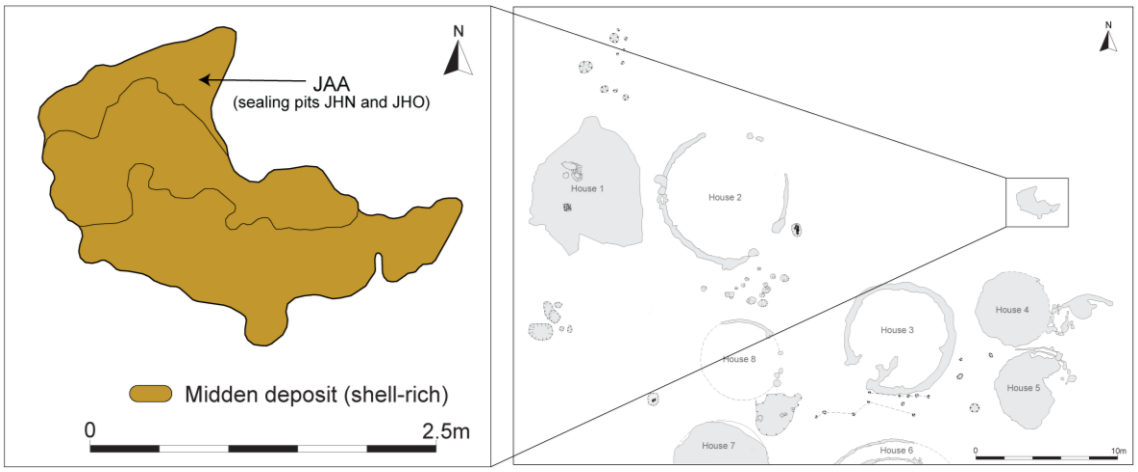


Fig. 4.105 Midden sealing pits north of House 4 (image copyright The Broxmouth Project).

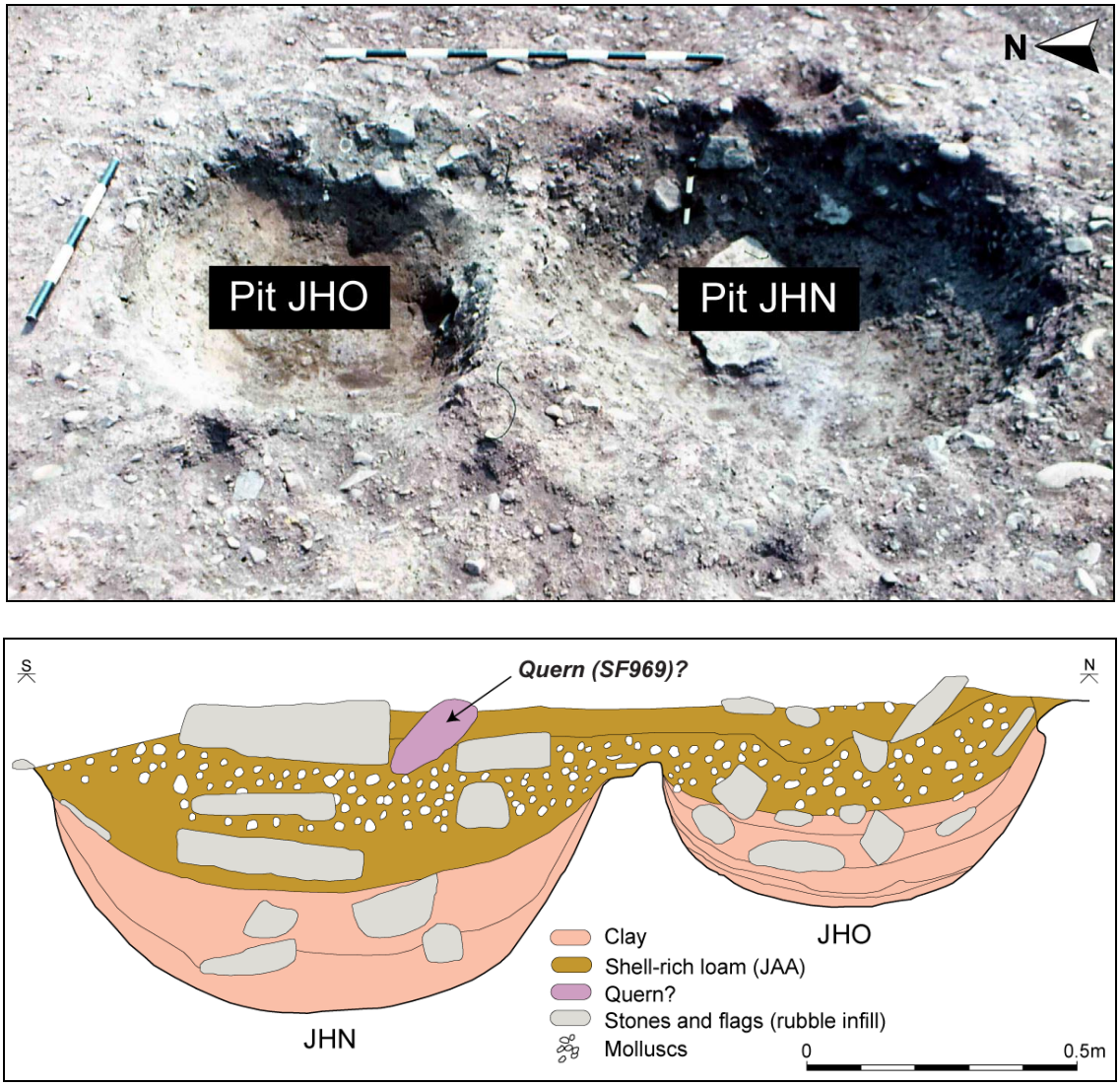


Fig. 4.106 Pits JHN and JHO (photograph: Broxmouth archive; section: copyright The Broxmouth Project). It is possible that the features surrounding these pits on slide (top) represent some of those (JHKa, JHL, JHM) recorded to this area but not represented on plan.

Again, artefacts, including an unfinished quern (SF969) and worked antler fragment (SF334; Table 4.25), were deposited during infilling of these pits (Fig. 4.107), and may therefore be associated with their structured abandonment.

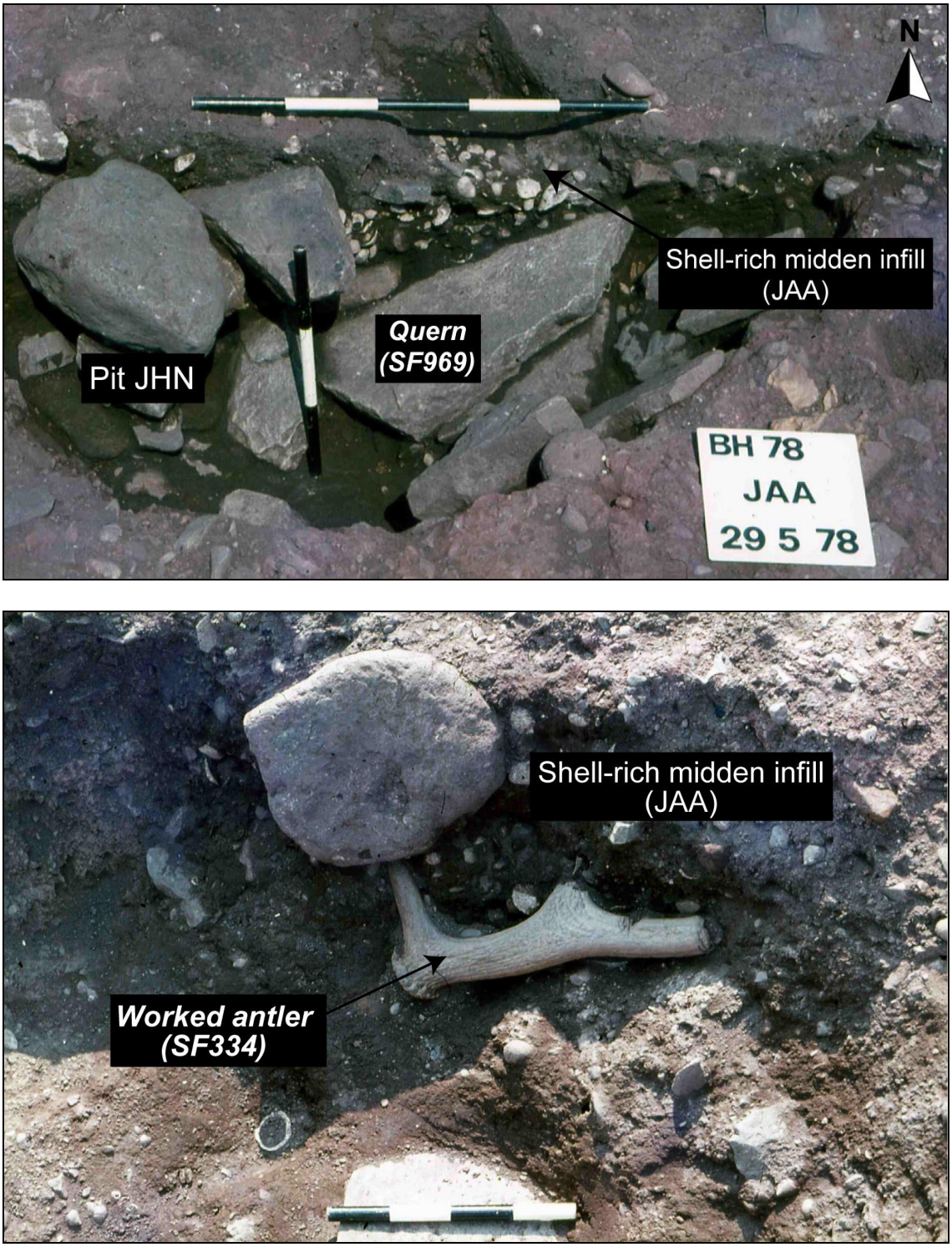


Fig. 4.107 The unfinished quern (SF969) and worked antler fragment (SF334) deposited in the shell-rich midden infill (JAA) of pits JHN and JHO (photographs: Broxmouth archive), the former more specifically with the infill of pit JHN.

One further pit (JAR, 0.8m diameter x 0.2m deep) lay approximately 1.6m west of House 5 (Fig. 4.108). It also had a thick clay-lining, which, in this instance, does not appear to have been replaced. The pit appears to have been back-filled with redeposited natural at the end of its life (Fig. 4.109), but no artefacts were deposited within it.

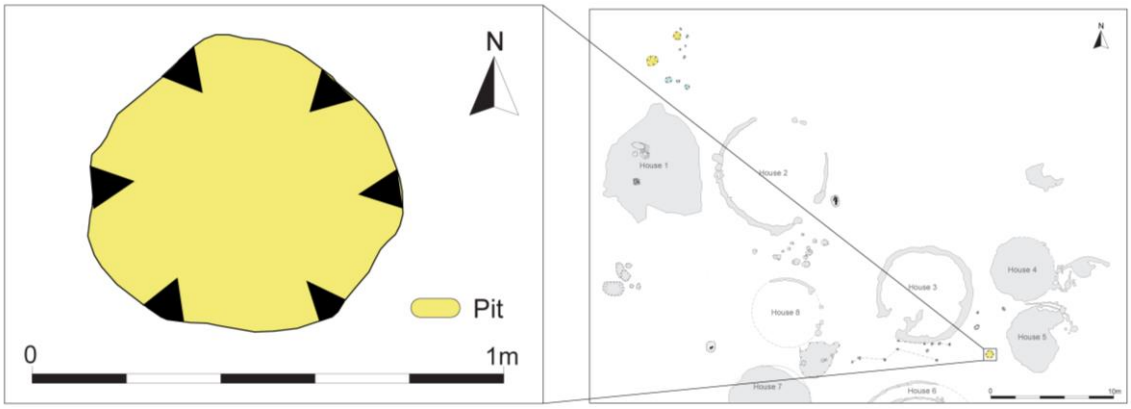


Fig. 4.108 The location of pit JAR within the Phase 6 settlement (image copyright The Broxmouth Project)

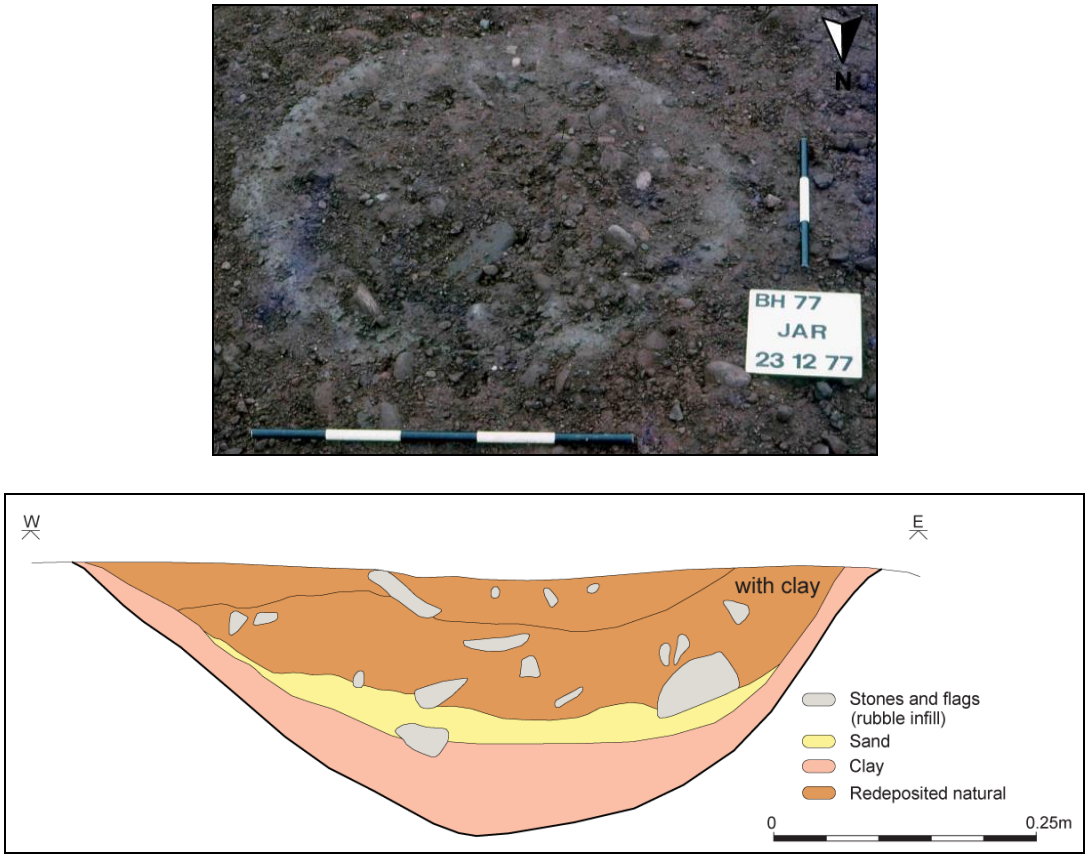


Fig. 4.109 Pit JAR, with the clay-lining visible prior to excavation (section: copyright The Broxmouth Project; photographs: Broxmouth archive).

The function of these pit complexes is unclear, but it is significant that several of them include clay-linings, which could indicate a similar function; one which required the pit to be water-tight, or at least water-resistant. Possible functions could include use as cooking pits, for water storage, for the processing of clay or daub, for the tanning of animal skins, or for the storage of perishable goods such as grain. Their use for a particularly messy or unpleasant activity such as daub processing or tanning could explain the isolated nature of these features, outside the confines of the roundhouse.

4.10.2 ***Posthole complex***

A cluster of postholes, some with pit-like dimensions from the digging out of the posts, lay between Houses 2 and 8 (Fig. 4.110). The regular spacing of these postholes suggests that they were functionally associated with one another, perhaps supporting free-standing posts flanking a 1.5m wide walkway, or adjacent/ conjoining four-poster grain stores (Fig. 4.111). No artefacts were recovered from these features, with the exception of posthole HJO, where an upper rotary quern stone (SF940) appears to have been deposited in the post-pipe after removal of the post (Table 4.25; Fig. 4.112).

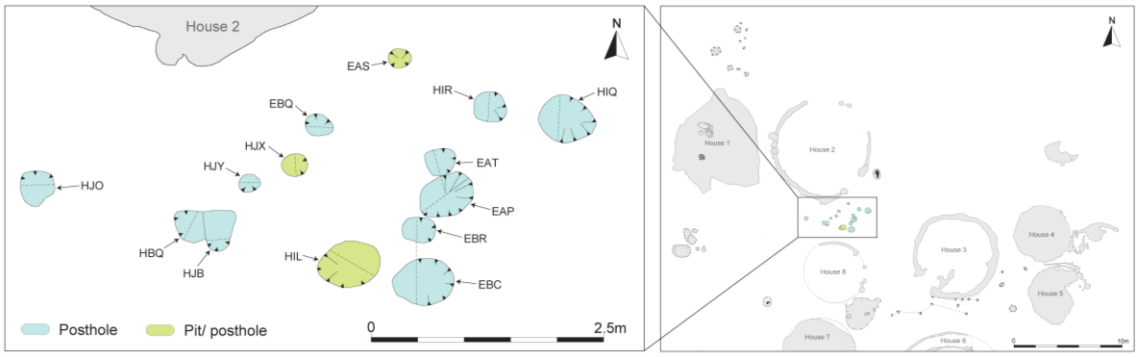


Fig. 4.110 Posthole complex between Houses 2 and 8 (image copyright The Broxmouth Project).

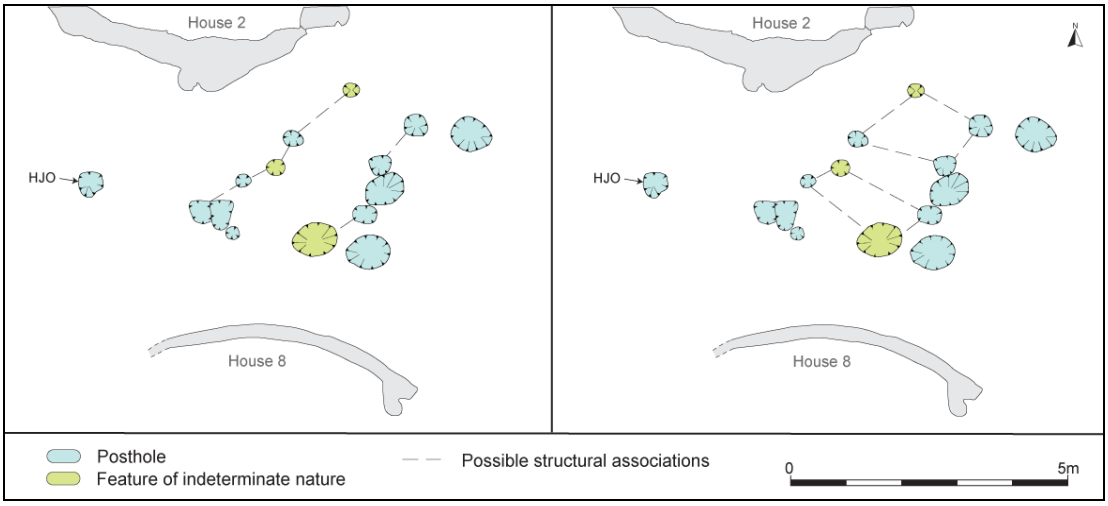
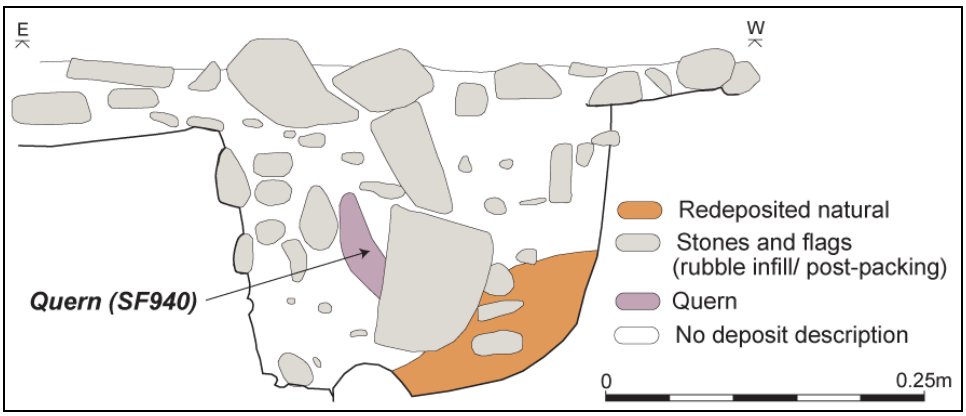


Fig. 4.111 Possible structural arrangements for the features north of House 8: pathway flanked by free-standing posts (left); four-post structures, possibly granaries (right; image copyright The Broxmouth Project)



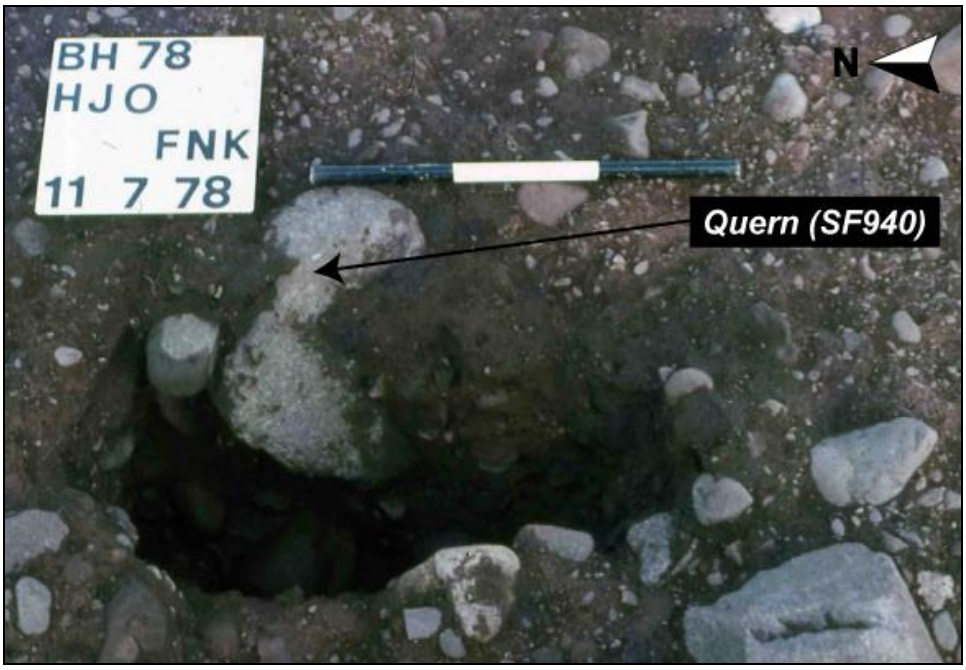


Fig. 4.112 Quern (SF940) *in situ*, sealing the post-pipe of posthole HJO (section: copyright The Broxmouth Project; photograph: Broxmouth archive).

4.10.3 ***Possible working hollow***

South of House 8 was a large hollow (maximum dimensions: 4m E-W x 3.6m N-S), into which several features were cut (Fig. 4.113). This depression may represent a 'working hollow', serving to shield individuals from the elements, or merely terracing of the slope to create a flat ground surface for activity, and any superstructure supported by the posts. A roughout for a possible antler handle (SF427) was recovered from this feature (Table 4.25).

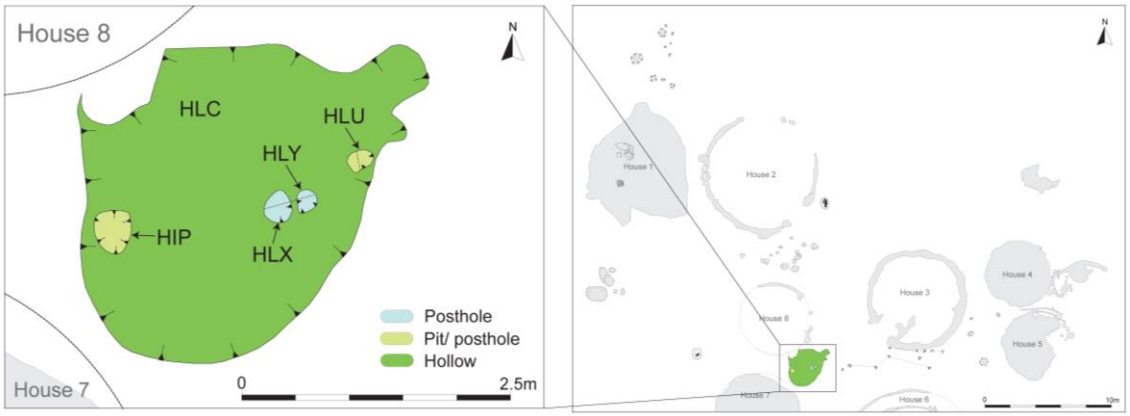


Fig. 4.113 Possible working hollow south of House 8 (image copyright The Broxmouth Project).

4.10.4. ***Linear stakehole arrangement***

A number of stakeholes ran in an east-west alignment south of House 3 (Fig. 4.114), and may have demarcated a fence-line or flanked a pathway running from the interior roadway towards Houses 4 and 5.

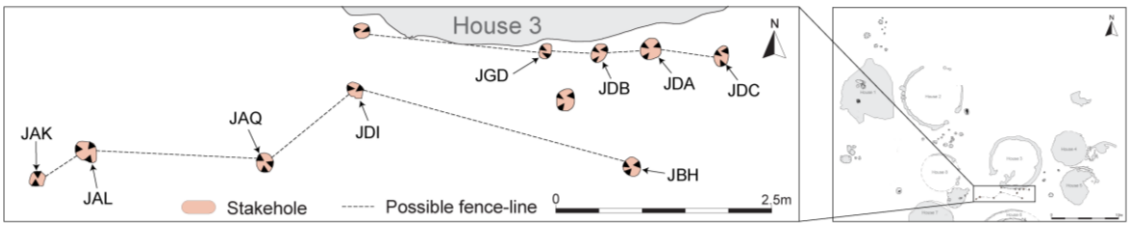


Fig. 4.114 Possible fence-line or pathway south of House 3 (image copyright The Broxmouth Project).

4.10.5 ***Artefacts***

Feature	Context		Artefact type	Find no.	Artefact description
Pit complex	OAI		Quern (Rotary)	SF947	Lower (complete): edges damaged, central spindle-socket, linear scratch-marks/ gouges on grinding surface likely result of post-depositional damage/ secondary use as a working surface. Coarse-grained sandstone.
	OAC	In clay lining	Copper alloy	SF517	Penannular brooch: spherical terminals, narrow cordons behind, pin wraps around hoop once.
		Bottom	Worked bone	SF215	Spearhead: whittled to point, polished
	EBF/ OAC		Baked clay/ daub	SF1106	1 frag.
	EBF	01	Pottery	V90	1 rim, 2 body (straight-wall): coil-constructed, grass impressions, sooted (Type 2)
		01/ 02	Quern (Rotary)	SF939	Upper (c. 10%): bun-shaped, upper surface/ grinding face lost, horizontal handle-socket.
		02	Quern (Rotary)	SF957	Upper (c. 20%): bun-shaped, minimal modification to upper surface, biconical feeder-pipe, wear suggests use with dished lower stone, sig. thickness lost through wear. Coarse-grained, carboniferous sandstone.
			Quern (Rotary)	SF959	Undifferentiated (< 20%): no handle socket, feeder-pipe. Coarse-grained sandstone.
			Pottery	V91	1 frag.: grass impressions (Type 2)
			Metallurgy	SF1098	Furnace wall: highly vitrified, (tap?) hole
	OAT		Worked antler	SF494	Frag. (handle?) roughout: smashed and burnt, surface abraded, poss. hollowed
	Midden (JAA) over JHN/ JHO	N/A	Worked bone	SF242	Splinter point: flat, broken, rounded head, blunt tip abraded to shape, slight use-wear
		01	Worked antler	SF334	Early stages: attempt to detach drum
		01 (JHN)	Quern (Rotary)	SF969	Unfinished/ undifferentiated: attempt made to thin slab by following the natural bedding plane abandoned- poss. because too much thickness lost/ irregularity, limpet-scarred, no evidence of use/ wear. Medium-grained, quartzitic carboniferous sandstone.
P'hole complex	HJO (01) (seals post-pipe)		Quern (Rotary)	SF940	Upper (< 10%, disc-shaped): natural upper surface, no manufacture, pitted from wear, horizontal handle-socket. Coarse-grained carboniferous sandstone, feldspar inclusions. Deposited grinding face up.
Working hollow?	HLC		Worked antler	SF427	Roughout (handle?): socket in end

Table 4.25 Artefacts recovered from Phase 6 features lying outside Houses 1-8

Layer	Context			Artefact type	Find no.	Artefact description
Poss. 4	Deposit			Worked antler	SF379	Tine-beam junction off-cut
				Perforated shale	SF653	Bangle roughout (frag.): cut to circle, abrasion in progress, curving arc (3 cuts) defines intended perforation.
				Iron	SF605	Bar frag.: square-sectioned, broken
	Pit	KDI		Worked stone	SF 1031	Whorl (c. 1/3): flat faces, perforation. Carboniferous medium grained micaceous sandstone.
				Copper alloy	SF524	Chain-link: circular-sectioned strip bent into oval, much evidence of wear.
		KDF	N/A	Pottery	V89	1 body (Type 2)
			03	Worked antler	SF357	Prepared strip
3	Deposit			Worked Bone	SF486	Undiagnostic frag.: no tool-marks
				Worked Stone	SF1024	Whetstone: face smoothed and dished. Medium grained micaceous ?Carboniferous sandstone.
				Iron	SF581	Fitting/ fastening: tack, twisted, head broken from removal.

Table 4.26 Artefacts recovered early Phase 6 activity layers beneath House 1

4.11 **Overview of the Phase 6 settlement**

The previous sections have discussed the individual roundhouses (and the features between them) in some detail. This section, meanwhile, draws this data together and presents an overview of the Phase 6 settlement: its layout, the possible (and complementary) functions of the roundhouses, and the ways in which both changed over time.

4.11.1 Roundhouse development

Fig. 4.115 represents an overview of the Phase 6 roundhouses in diagrammatic form, in order that the developmental trajectory of each structure, and that of the Phase 6 settlement more generally, can be observed. To aid the latter, the roundhouses have been arranged in date order of their construction (i.e. the earliest (House 3) at the bottom, and the latest (House 1) at the top).

There are however several caveats to the model. The radiocarbon dates used to place each structure (and each stage of each structure) within the chronology of the Phase 6 settlement have been subjectively chosen based on their perceived accuracy and the degree to which they are deemed to represent the construction/ reconstruction of the building. In some cases, where it was not possible to date specific stages of use, it has been necessary to use *terminus ante quem* and *terminus post quem* dates (represented by dashed lines).

In addition to showing the developmental trajectory of the roundhouses, Fig. 4.115 also highlights important moments in the biography of each structure, e.g. the construction of the first stone walls, the laying of the first paving (both

represented by upper case bold italic font), and the incorporation of particularly significant or unusual structured deposits (represented by lower case bold italic font). Dashed lines have been used to denote deposits which are tentatively interpreted as associated with a particular point in the biography of a roundhouse (e.g. the artefacts in the pits associated with House 6, and the 'hoard' in the pit associated with House 1), but for which there is no stratigraphic evidence to confirm this association.

This diagram is, given the problems of AMS date ranges and the apparent abundance of redeposited material within the structures, necessarily crude, but is intended to provide a broad visual impression of the settlement at various points in time, and the changing nature of the settlement over time. It is, for example, very clear that stone-walled architecture pre-dated the Roman conquest of the region in AD79/80, and some of the paved floors also appear to belong to this pre-Roman period (though this cannot be confirmed with such large AMS date ranges). Indeed, whilst the timing of the deposition of certain items is inherently tied into the individual timescales represented by the biography of each structure, it is interesting to note an apparent concentration of structured deposition in the first and second centuries AD. Perhaps this phenomenon, occurring at the time of Roman occupation of the region, represents a reorientation towards, or a re-emphasis on, the role of indigenous domestic architecture in the construction of household and communal identity, in the face of, or in complement to, a host of new and exotic '*personal* ornaments', and other trappings or practices, acquired via the Roman market and/or through Roman contact.

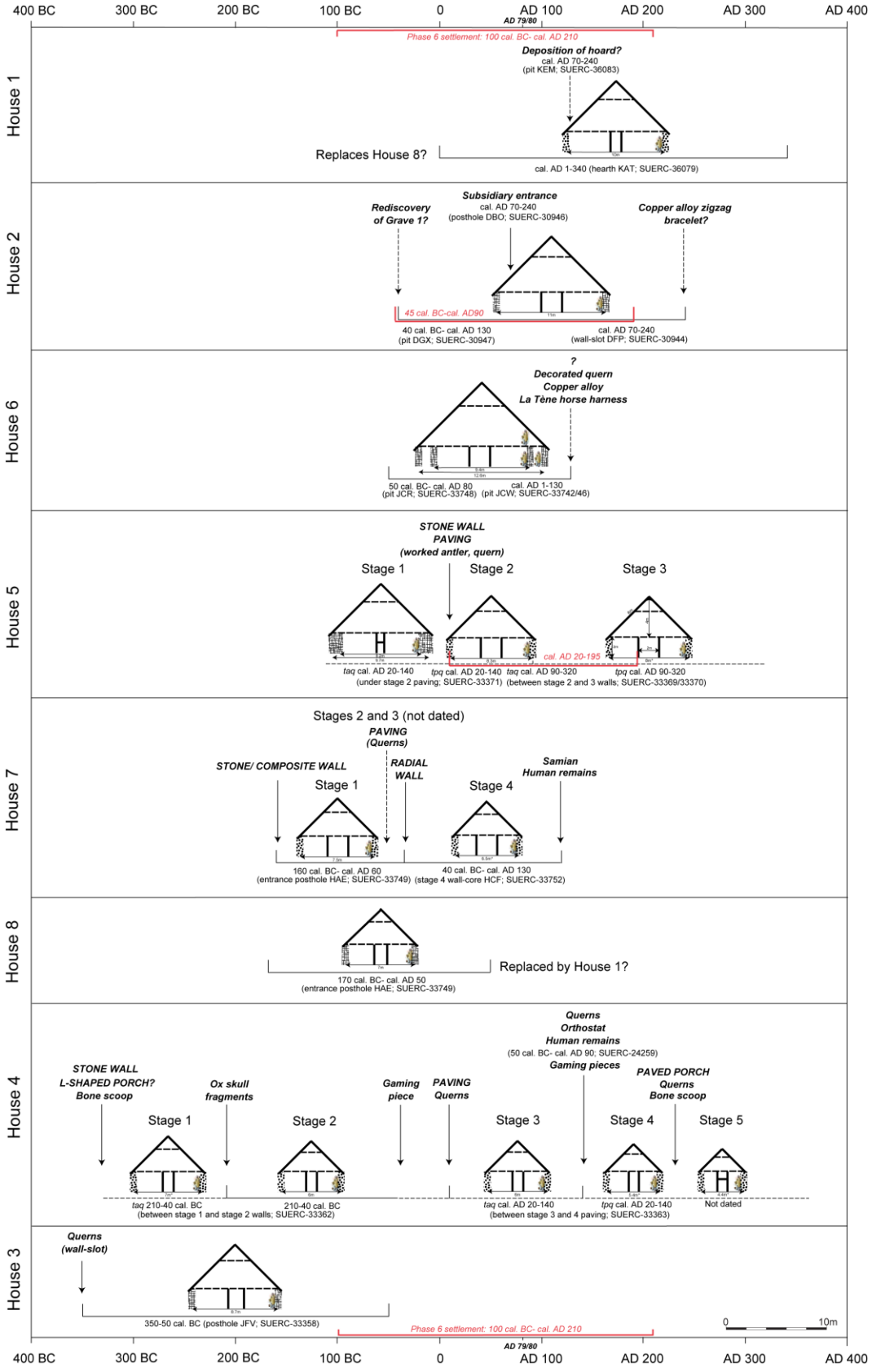


Fig. 4.115 Diagrammatic representation of the biographies of the Phase 6 roundhouses, based on a subjective selection of the relevant AMS dates (image: author). Red italic font denotes the Bayesian modelled dates for Houses 2 and 5, and for the Phase 6 settlement more generally (at 68% probability). Major events (structural and depositional) within the lives of the roundhouses are also shown.

4.11.2 ***Settlement layout***

The surviving Late Iron Age settlement at Broxmouth comprises eight, densely packed, roundhouses (Fig. 4.116), though it is likely that many more originally occupied the northern part of the interior, now heavily plough truncated. The plan of the surviving roundhouses suggests the presence of a roadway leading northwards from the South-west Entrance, through the interior, between Houses 6 and 3 on the east, and Houses 7 and 8 on the west; this road appears to have been later realigned or widened after the abandonment of House 8 (Fig. 4.117).

Fig. 4.116 Artist's representation of the Phase 6 settlement (in contrast to Fig. 4.117, Houses 1 and 8 are both shown) (image: Rebecca Hirst, copyright The Broxmouth Project).

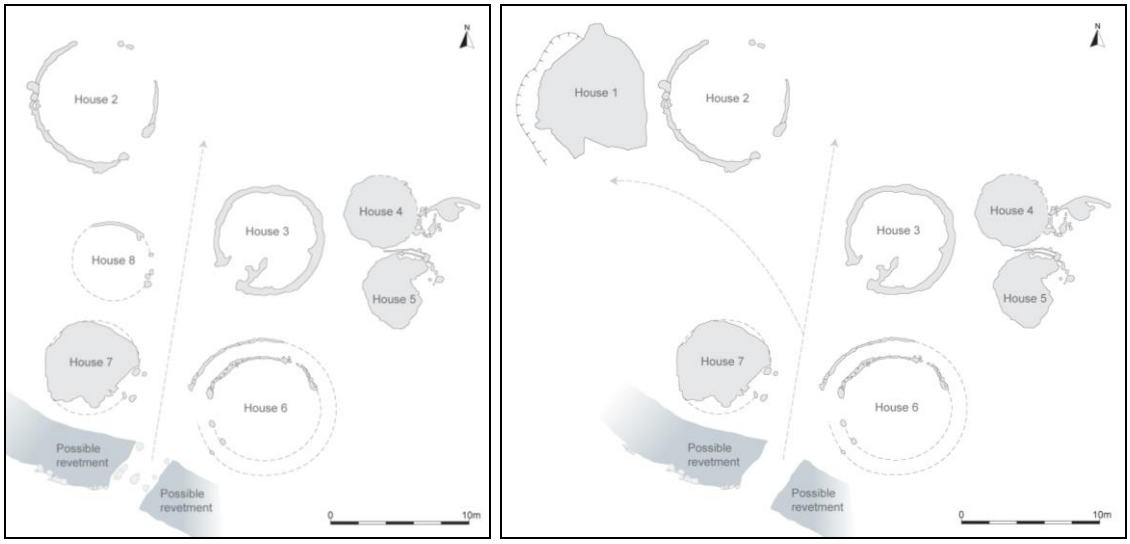


Fig. 4.117 The Phase 6 settlement as it is thought to have developed over time. The early settlement (left) includes House 8, the stage 1 roadway and the South-west Entrance gateway; the later settlement (right) shows House 8 replaced by House 1, the stage 2 realignment of the roadway (the gateway having been assumed to have gone out of use).

All of the roundhouses, with the exception of Houses 4 and 5 to the east, appear to front onto this roadway, suggesting that at Broxmouth, roundhouse orientation may have been influenced more by pragmatic concerns regarding settlement layout, than cosmological ones. Though the route of the roadway through the rest of the interior is unknown, it is interesting that Houses 4 and 5 are orientated away from it. They are, however, located near to the East Entrance, which may have continued in use in this phase; in this case, a road, lost through truncation, may have run southwards from this entrance, past the east-facing roundhouses.

As is illustrated in Fig. 4.115, though the wide date ranges make it difficult to be certain about the exact nature of the settlement at any one time, broad observations can be made. House 8, for example, appears to go out of use earlier in Phase 6 than some of the other roundhouses, thus allowing for

expansion or realignment (stage 2) of the roadway over it (Fig. 4.117). Conversely, House 1 appears to represent a relatively late development within the settlement, perhaps as a complementary addition to House 2; indeed, it may have replaced House 8 in function. House 2, meanwhile, appears to continue in use after the abandonment of the roadway, suggesting that it may represent one of the longest lived structures within the Phase 6 settlement.

4.11.3 ***Roundhouse function***

It is difficult to establish specific functions for the Phase 6 roundhouses, though variations in size, fabric and internal complexity suggest some functional or social differentiation. Different roundhouse types, with significant morphological variations, co-exist elsewhere in later prehistoric Scotland, as at Kintore, Aberdeenshire (Cook and Dunbar 2008). Here, post-ring and ring-ditch houses appear to represent contemporary but distinct house forms (*ibid*, 329), which may likewise have served complementary functions, such as occupation for humans and animals respectively. At Broxmouth, the significant modification which individual roundhouses witnessed over the course of their use-lives, most overtly represented in the stone-walled roundhouses by a significant decrease in internal area over time, and the sealing of pits and other internal features by paved floors, suggests that the function and social importance of structures could change, perhaps in response to construction, demolition and development taking place elsewhere within the settlement.

Although the term ‘House’ has been used extensively in reference to the Phase 6 roundhouses, it is a convenient short-hand reference to the existing

Broxmouth archive (section 3.3.2). Certainly, it is by no means clear whether all of the roundhouses were used for human habitation. It could be assumed that those roundhouses with hearths (i.e. Houses 1, 3, 4 and 7) may have served such a purpose (cf. Sharples 2010, 233), but the nature of these features varies widely, and not all structural stages included them. The sheer number of features, particularly posts, in House 2, and in the unpaved stages of Houses 4 and 7, would have made moving around these structures rather difficult, though they may of course represent something of a palimpsest. Furthermore, the large breach in the northern part of the House 2 wall-slot calls into question whether this was a roofed structure at all, or if it was, whether it had a removable wall similar to ethnographically and ethno-historically recorded byres. Certainly, there seems inadequate space within the surviving Phase 6 settlement for livestock corralling, though it is possible that the northern part of the interior, too badly scalped by the plough to have preserved any of the prehistoric surface, was used for this purpose. Alternatively, livestock may have spent most of their time out to pasture, with the overwintering of only a few animals within the settlement itself, if not in stock-pens in the surrounding fields.

It is also possible that fires were contained in portable braziers, which have left no earth-fast trace, or on clay plinths on an upper floor; however, no convincing post-rings, upon which an upper floor is likely to have been supported, survive in any of the Phase 6 roundhouses. An arc of substantial posts in the north-west of House 3 could suggest the presence of a mezzanine floor (Fig. 4.118), similar to that proposed in a structural reconstruction at Castell Henllys, Pembrokeshire (Fig. 5.29, section 5.3.1), whilst the internal partitions flanking

the entrance of House 3, and possibly House 2, may also have supported an above-ground storage space (not shown in Fig. 4.118). None of these mezzanine floors appear, however, to have been large enough to facilitate human occupation, other than perhaps to serve as an additional sleeping area.

Fig. 4.118 Artist's representation of the interior of House 3 (image: Rebecca Hirst, copyright The Broxmouth Project). The partitions either side of the entrance (bottom left) may well have been higher (perhaps with storage space above), but are shown at a low level in this drawing, to enable full view of the interior.

Whilst poor preservation of House 1 has eluded confirmation of a west-facing entrance, the close proximity of Houses 1 and 2, and their widely different, but complementary, interiors, suggest that these structures formed a conjoined figure-of-eight structure, and together formed a single domestic unit. Though Houses 4 and 5 do not share entrances, and thus there is no evidence of direct access between them, they are in similarly close proximity to suggest a composite roof structure and possibly also front onto a shared yard surface. These structures may therefore, like Houses 1 and 2, have served complementary functions as part of a single domestic unit, with primary domestic functions perhaps switching from House 4 to House 5 as the former decreased in size over time. Indeed, although the interiors of stages 1-4 of House 4 appear more than adequate for human habitation, with evidence for internal wattling and possible plastering of the stone walls in stages 1-3, and an, albeit small, hearth in stage 3 (Fig. 4.119), the dramatic decrease in the size of the internal area by stage 5 (which represents about 40% of the original footprint) suggests a change in the function of this structure, which may have become an annexed yard, storage area, activity area or livestock pen for House 5.

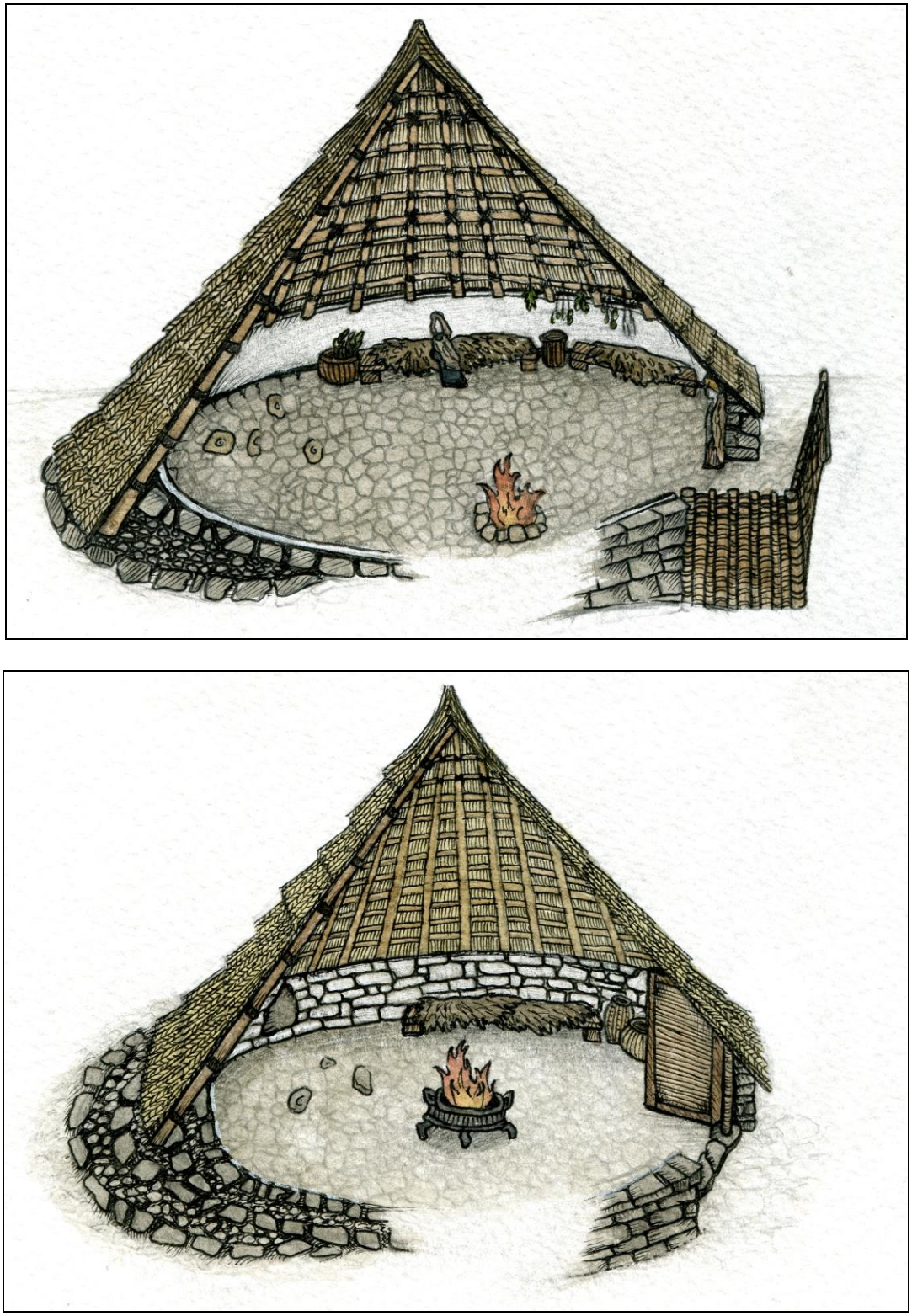


Fig. 4.119 Artist's representation of House 4: stage 3 (top) and stage 4 (bottom) (image: Rebecca Hirst, copyright The Broxmouth Project). Stage 3 is shown with the L-shaped porch, small off-centre hearth and limewashed wattle wall lining. Stage 4 is shown with the paved porch and stone threshold, the wall orthostat (opposite the entrance), a portable brazier (in the absence of a formal hearth) and limewash applied directly to the stonework (in absence of the wattle lining). The rafters are shown bedded into the successive wall-heads, and the relative position of the querns incorporated into the paving, is also highlighted.

4.11.4 ***Artefacts***

Whilst the Phase 6 roundhouses contain a large quantity of artefacts, most represent secondary deposits, with the possible exception of the House 4 (stage 4) pivot stone (SF998), which itself may have seen previous use as a worked stone artefact. Since none of the artefacts can be taken as evidence of primary, *in situ* activity, finds distribution plots (Fig. B.1, Appendix B) tell us little about the zonation of activities carried out within roundhouse interiors. As has been demonstrated elsewhere (e.g. Webley 2007), most artefacts in the Phase 6 roundhouses are likely to have been deliberately deposited, often as structured foundation or abandonment deposits. Others meanwhile, particularly those recovered from the terminal abandonment deposits of house-stances, can be considered to represent components of the midden, not necessarily generated by the inhabitants of that structure, which was used to infill them. Structurally and functionally important features such as walls, paving, pits and postholes appear to be the focus for structured deposits (which on occasion include faunal and human bone), with several artefacts apparently being curated for considerable periods prior to deposition, and others representing complementary pairs of deposits bracketing fairly lengthy occupational histories. A more detailed examination of these structured deposits is provided in chapter 5 (see especially sections 5.2 and 5.4).

Chapter 5: Roundhouse Biographies

The excellent preservation, multiple re-use, and well-dated structural sequences of the Broxmouth roundhouses, particularly Houses 4 and 7, provide an excellent opportunity to undertake a biographical approach to their study and interpretation. Detailed discussion of each roundhouse by stage (Chapter 4), has laid the foundation for a more general discussion of their biographies and the recognition of broader trends in inhabitation practices.

The structure of this chapter, comprising four key sections (conception, (re-)birth, life and death), extends the consideration of roundhouse biographies beyond the life of the structure itself, to decisions, such as choice of site and building materials, taken prior to its construction (conception), and beyond its abandonment to its memorialisation and/ or re-use (death and re-birth). As Gerritsen (2008, 149) acknowledges, 'a new house marks a start merely in a relative sense', and this is particularly relevant for the Phase 6 roundhouses, which represent the last few centuries of a sequence nearly 600 years in the making (Fig. 3.1, Chapter 3), whilst each new stage of occupation of the Phase 6 roundhouses themselves, merely represented a new structure on an existing house-stance. At the same time, the Phase 6 roundhouses represent the last prehistoric occupation at Broxmouth, and so their closure also signalled the abandonment of this long-lived settlement. Nevertheless, Broxmouth appears to have lived on in social memory, perhaps through myth, with the interment of an adult male (Grave 4) in the ruinous settlement interior during the early medieval period (cal. AD 400-540, SUERC-21989; Hamilton *et al* in press, 2013).

The study of roundhouse biographies facilitates a holistic approach to the evidence, in providing a series of windows through which these different temporal scales of activity can be observed (Gosden 1997, 304). Whilst necessity has dictated discussion of these biographies in four separate categories, with a unilateral trajectory from conception to death, the indivisibility of the various temporal scales (from deep, mythical past to everyday life) drawn upon and played out by prehistoric communities creates nested, cyclical and relational biographies with blurred categorical horizons. The use of the term '(Re-)birth' in Chapter 5 is an attempt to reflect these nested biographies, again particularly relevant at Broxmouth since the stone-walled roundhouses are themselves nested in the 'shells' of their predecessors. Certainly, unlike the longhouses of Continental Europe, there is little distinction between the composition of foundation and abandonment deposits in British roundhouses (Bradley 2005, 56, 206), suggesting that the two acts may have been viewed as synonymous in a continual process of decay and renewal. It is perhaps more appropriate, therefore, that these events are seen as *transitional moments* in the biography of the roundhouse, rather than clearly delineated breaks between one episode of occupation and the next.

5.1 **Conception**

'Building a house marks in many ways a new beginning. It is the start of a relationship between a building and its inhabitants, between a building and its surroundings and between the inhabitants and their surroundings' (Gerritsen 2008, 148-149).

The biography of a roundhouse begins long before any structural foundations are laid. For settlements with long occupational histories, such as Broxmouth, decisions regarding location would have been made centuries before the latest structures were constructed, yet these decisions clearly influenced their siting at established nodes in the landscape. At Broxmouth, the location of the Phase 6 house-stances also influenced the position of later structures, since they were retained and re-used over the course of several generations. Conversely, at Hartburn in Northumberland (Jobey 1973), 36 overlapping house-stances, representing a minimum of twelve different episodes of occupation, suggest longevity of settlement, but less concern with the maintenance of specific house-stances and settlement layout. Practical concerns will undoubtedly have played a major role in the location and construction of roundhouses; indeed, lack of space within the densely packed settlement at Broxmouth, as suggested by the surviving roundhouses, may have encouraged re-use of house-stances. Consciously or unconsciously, social and cosmological factors are, however, also likely to have played their part (cf. Frodeman 2004; Owoc 2004b, 220).

5.1.1 ***Broxmouth's environment***

'Standing on a grass or heather-covered hilltop or a ridge in the limestone country would have been a very different embodied experience to picking a route through the boggy tracks or paddling through the narrow waterways of a lowland wooded carr or reed swamp' (Chadwick 2010, 17).

Whilst the limestone knoll upon which Broxmouth is located lies only 25m above sea-level, the relatively low-lying nature of the surrounding East Lothian plain would have made it a prominent point in the landscape. Though not of the same proportions as the volcanic plugs of Traprain Law and North Berwick Law, this small hill may nevertheless have been a draw to the original Broxmouth population, and was imbued with sufficient significance (both topographical and ancestral) to 'hold' populations for the next 900 years; in fact, evidence for Late Neolithic activity and the early medieval inhumation at Broxmouth suggest that this location was a focus for activity for a much longer period. Certainly, the elevated position afforded by the knoll would have provided a view of the surrounding landscape, whilst the limestone geology of the immediate vicinity may have produced more fertile soils. Both of these factors may have afforded the Broxmouth population a greater social standing in relation to their neighbours. Furthermore, the preservation of bone in these alkaline soils may have served to heighten Broxmouth's perception as a 'site of ancestors'.

On a practical level, fresh drinking water would have been available from Brox Burn (now dry), 500m north-west of Broxmouth, whilst the site's location only 600m from the coast would have allowed access to coastal and marine

resources, and transport, enabling contact with local populations up and down the coastline and beyond. Use of these resources is indicated at Broxmouth by the presence of deep-sea fish and crab (Russ *et al* 2012); whale, seal and otter bone; large quantities of marine shell (Cussans in press, 2013); non-local timber species (e.g. larch and conifer) which could represent driftwood (Armit in press, 2013); and limpet-scarred stones. A coral bead (SF691, recorded from Phase 4 Structure D; Armit and Kershaw in press, 2013b), the only known in Iron Age Scotland (Hunter *et al* in press, 2013), may also have been traded from the Mediterranean, though indirect trade overland via southern Britain cannot be ruled out. Marine and coastal resources do not generally feature abundantly in the faunal assemblages of Iron Age settlements, even on coastal sites (Harding 2004, 12), and so access to, and use of, these resources may not only have allowed the Broxmouth population to fill a specific economic niche, but would almost certainly have added another layer of complexity to their social identity.

5.1.2 ***The materiality of roundhouses***

'The use of minerals created interconnections between the place of extraction, the place of use, and the social setting of usage' (Robinson 2004, 97).

A simple functionalism is often attributed to vernacular architecture, whereby local materials are considered to have been used in purely environmentally- and structurally-determined capacities; indeed, much experimental work of the 1970s and 1980s tended to focus only on number-crunching of the quantities of resources required for roundhouse construction. Ethnographic studies suggest, however, that in many societies, a fluidity exists between material and social

worlds, to the point that the landscape is perceived as the embodiment of mythical and ancestral beings (cf. Brumm 2004, 147, 154). The most iconic example of this is, perhaps, the Aboriginal Dreaming, though closer to home, a large body of *Dindshenchas* ('poetry of place') is preserved in early Irish texts (Monaghan 2004, 129). If the Broxmouth population, and other Iron Age communities, held similar beliefs, then people, resources, and the landscapes from which they derived, would have been 'deeply interwoven into the social, cosmological, mythical, spiritual and philosophical aspects of life' (Boivin 2004a, 2).

In many societies, minerals are afforded animate characteristics that modern, Western society would reserve only for living beings (Boivin 2004a, 4, 17), and can therefore be drawn upon to communicate different aspects of social identity including age, gender, social status, ethnic identity and totemic association, both via their physical attributes and their provenance (cf. Boivin and Owoc 2004). As such, special measures or journeys may have been required for their procurement, even where resources with similar, or more advantageous, physical attributes were more easily available (Brumm 2004, 153; Owoc 2004a, 111; Taçon 2004, 34). Ethnographic evidence also suggests that complex social rules may have governed the use of certain resources, or their sub-groups (e.g. species of tree, type of stone), by particular social groups within society, or in specific contexts, and that some resources could also be considered taboo (e.g. Aldhouse-Green 2000, 5; Kahn and Coil 2006, 345). Pliny, writing in the first century AD, for example, records that in Gaul, 'the druids... hold nothing more sacred than the mistletoe and a tree on which it is growing, provided it is hard

[Valonia] *Oak*' (Healey 1991, 216, my emphasis). Indeed, this species appears to have been favoured for the carving of, apparently votive, Iron Age figurines, and is inherent in the social, cosmological and mythical messages they were designed to convey (Coles 1998).

Wood

Woodland is likely to have been increasingly scarce on the East Lothian plain in later prehistory (Lelong and McGregor 2007, 6); this, in itself, may have heightened its social significance. Management of woodland is therefore likely to have been an important part of Iron Age life, with coppicing and pollarding having been recognised as effective woodland management strategies from the Neolithic onwards (Rackham 2001, 8, 38). Indeed, in addition to maintaining wood supply, these management practices would have produced thinner, straighter timbers more suitable for roundhouse construction, than those derived from fully-matured specimens with thick, twisted trunks (cf. Rackham 2001, 37). Since Tipping (2010, 187) suggests the absence of oak in the Cheviot uplands, south of the East Lothian plain, by the later Iron Age, the oak timbers which comprised the main structural elements of the roundhouses at Dryburn Bridge (Dunwell 2007, 54, 61), 2.5km south-east of Broxmouth, must have been managed and protected in the lowlands, or acquired from elsewhere through trade.

Woodland management would have required organisation and negotiation between and within communities, perhaps with the imposition of annual or seasonal quotas. In some societies, trade and negotiation of resource

procurement is an active part of strengthening and maintaining kinship relationships and other social networks (e.g. Brumm 2004, 152-153; Charles *et al* 2004, 49). Woodland management is, by its nature, a long-term strategy; newly managed woodland produces very little useful structural timber for the first 20 to 30 years. Timber used in the reconstruction of the Pimperne house at Butser Ancient Farm ranged, for example, from 10-20 years old (for the wall) to 45-55 years old (for the internal post-ring; Sharples 2010, 207). As such, management of this resource would have passed between generations (some coppiced stools in Suffolk are more than a millennium old; Rackham 2001, 15), forming a link between past, present and future, and thus a means by which relationships between communities were formed, negotiated and maintained. Woodland management would also have extended the responsibilities of communities beyond their own lifetimes (i.e. harvested timber is often likely to have been the product of the previous generation's work). Like many aspects of roundhouses at Broxmouth, then, the structural timbers themselves would have created tangible links between generations.

Whilst the use of stone in the Phase 6 roundhouses at Broxmouth could be interpreted as a result of dwindling woodland, stone was employed in the Early and Middle Iron Age ramparts (Phases 3-5), when woodland was likely to have been relatively abundant; though, of course, Broxmouth's coastal location is always likely to have made stone more easily available than timber. Conversely, wood continued to be used for the construction of roundhouses (2, 3, 5 and, the largest, 6) in the Phase 6 settlement, despite its apparent scarcity on the coastal plain (cf. Tipping 2010).

Reconstruction of the Pimperne House at Butser Ancient Farm required over 200 trees and over five tonnes of thatch (P. J. Reynolds 1989, 36). Meanwhile, D. M. Reynolds (1982, 54-56) suggested that the ring-ditch house at Broxmouth (Phase 1, House B; Armit and Kershaw in press, 2013a), with three concentric lines of walling, would have required 2,953m of timber, with an additional 1000m for an upper floor, equating to 658 trees. Timber calculations for the Phase 6 roundhouses (Tables 5.1 and 5.2; Appendix A) confirm that, though less structurally complex than House B, considerable numbers of trees would have been required. The largest of the Phase 6 roundhouses (House 6), for example, required 144 trees, the management and collection of which may have been planned for a considerable time prior to its construction.

House		1	2	3	4				5			6	7		8
Stage		-	-	-	1	2/ 3	4	5	1	2	3	-	1-3	4	-
No. trees	0.05m	-	31	34	28	24	-	-	74	-	-	89	29	-	28
	0.1m	4	4	4	4	3	3	3	4	4	4	4	4	4	3
	0.15m	40	42	34	27	24	22	17	39	33	32	50	30	26	27
	0.25m	1	2	1	5	5	1	1	1	2	2	1	2	2	1
	Total	**45**	**79**	**73**	**65**	**56**	**26**	**21**	**118**	**39**	**38**	**144**	**65**	**32**	**59**
Withies (m)		586	2414	2276	1774	1491	232	179	4314	499	471	5412	2177	372	1774
Thatch (m^2)		128	152	99	66	50	42	29	121	90	84	197	75	58	66
Stone (m^2)		61	-	-	42	36	32	26	-	48	47	-	43	37	-

Table 5.1 Resource calculations for the Phase 6 roundhouses at Broxmouth, assuming wattle walls, wattle linings (where present), and a 45˚ roof pitch (table: author). The number of trees of different diameters (assuming 7m of useable timber per tree; Reynolds and Hill 1995) are calculated: 0.05m timbers: wattle uprights; 0.1m: ring-beam and door frame; 0.15m: rafters and wall-plate; 0.25m: entrance and porch furniture; withies: purlins, wattle walls, door panels. Though quoted in 'numbers of trees', several lengths of 0.05m timber could be obtained from a single coppiced stool; indeed, wattle for the walls of the Pimperne roundhouse reconstruction used 350 hazel rods from only 50 coppiced stools (Sharples 2010, 203). Considerably more 0.15m diameter timber would be required for stake walls, with more withies and thatch for 53˚ roofs (which shed rainwater more effectively; Carter 2009). Only initial roundhouse construction has been considered, not maintenance and repair.

Resource		Quantity
No. trees	0.05m	313
	0.1m	31
	0.15m	289
	0.25m	14
	Total	**647**
Withies		**20,727**
Thatch		**904**
Stone		**146**

Table 5.2 Resource calculations for the Phase 6 *settlement* at Broxmouth (table: author). In order to produce a more meaningful figure in terms of the maximum number of contemporary roundhouses, only the first stage of multiple-stage roundhouses (i.e. Houses 4, 5 and 7) is included. Since the multi-stage roundhouses decrease in size over time, the figures represent the maximum resources that would have been required for the surviving Phase 6 roundhouses. Since the multi-stage roundhouses also increase in their stone (at the expense of timber) components over time, the figures also represent the largest timber and smallest stone requirements for the surviving Phase 6 roundhouses.

The unpaved stages of the stone-walled roundhouses also had timber-furnished interiors, as indicated by numerous postholes, whilst even the paved stages of these structures would presumably have had timber roofs. Furthermore, the L-shaped porch of House 4 and the timber gateway at the South-west Entrance indicate that timber must have been sufficiently accessible to the Broxmouth community to allow for what might be considered 'superfluous' use of this resource; it is perhaps significant in this regard that the timber gateway appears only to have had a relatively short use-life, and was not repaired or replaced. Whilst a decrease in the size of the stone-walled roundhouses over time may indicate attempts to shorten the number (and length) of rafters required for the roofs of these structures, the paved floors appear to have been inserted only in an effort to minimise floor erosion, not in order to decrease the timber requirements of their interiors; indeed, it is likely that internal timbers were supported on post-pads within these structures, and leave little archaeological trace. Furthermore, the stone walls of these structures are frequently elaborated with internal wattle linings. Similarly, the change in porch construction from L-shaped timber arrangement to paved surface in stage 3 of House 4 could be seen as a response to reduced timber resources, but given the continued abundant use of this resource elsewhere in the settlement at this time, it may simply be the result of social or cultural factors (cf. Hill 1982a, 175). Indeed, architecture aside, large quantities of timber would also have been required for domestic firewood, and for metalworking, if practised on site at this time.

This extravagant use of timber in Phase 6 at Broxmouth could indicate that woodland, through management, provided quantities of timber equalling that of

previous periods, when unmanaged woodland was more plentiful, and that all Iron Age communities on the East Lothian plain had equal and uncontrolled access to it. Alternatively, it may suggest that the community at Broxmouth had greater control over woodland resources than their neighbours, through some heightened social status or bargaining power; the latter may have included the exchange of unusual and sought-after coastal or marine resources not readily available to inland communities. If this was the case, then the extravagant use of timber at Broxmouth may have represented a conscious display of social and economic prowess. Furthermore, if timber was indeed a scarce and prized resource, the timber-walled structures at Broxmouth, particularly large, double-walled House 6, may have served a special social role that required, and justified, the use of this precious resource (cf. Sharples 2010, 206).

The variety of tree species recorded at Broxmouth (Armit in press, 2013) does not suggest the sole use of a mono-species woodland (*contra* evidence from Swindon Hill in the Bowmont Valley; Tipping 2010, 177, 184). Furthermore, the presence of non-native species such as larch and conifer attest to the likely use of driftwood, as is frequently noted in the Western Isles (Church and Cressey 2006, 188; Parker Pearson *et al* 2004, 97; Holden 2004, 38). Presumably, the presence of this resource would not have been overlooked, even in addition to managed stands. Indeed, despite the compromised structural qualities of driftwood, the 'exotic' appearance of these species, and their characteristic 'at-sea' patina, may have been consciously desired (albeit perhaps in a non-structural capacity) to emphasise the coastal location and identity of the settlement.

Stone

'...the properties of the minerals that they used to communicate with each other across time and space also serve to communicate something of their understanding of the world to us today' (Charles *et al* 2004, 44).

It is likely that, for the Late Iron Age inhabitants of Broxmouth, stone was a more abundant, and more accessible, resource than timber. There is little evidence for the deliberate quarrying of stone during the Iron Age, and certainly the depth and extent of boulder clay over much of the East Lothian coastal plain would have made stone procurement from the underlying bedrock difficult (cf. Heslop 2008, 13). Whether or not clearance cairns were utilised, Broxmouth's coastal location would have allowed for easy access to stone at the shore. Loose stones could have been gathered or slabs spliced from exposed bedrock, already weakened by the hydraulic action of the waves (Hall 2011, 100; Fig. 5.1). Hill (1982a, 175) suggested, in fact, that much of the stone used in the Phase 6 roundhouses may have been gathered from the denuded ramparts of Phases 2 and 3, but, given the quantity used across the Phase 6 settlement, and the fact that much of this material may have already been re-used by, or buried beneath, Phase 4 and 5 occupation, it is likely that this resource was supplemented by stone from the shore.

Fig. 5.1 Sandstone and mudstone slabs lying on the shore (top), and exposed bedrock outcrops (bottom) at the Whitesands shoreline, 600m east of Broxmouth (photographs: author). Note how hydraulic wave action causes the planes of rock to fracture naturally into flat slabs.

AMS dates from the stone-walled roundhouses (e.g. Table 4.12, section 4.4.7) confirm that stone was used in an architectural capacity significantly prior to the Roman incursions into this region (AD 79/ 80), and as such, cannot be seen as representative of any direct Roman cultural influence. Hill (1982a, 175) does, however, suggest that the stage 3 orthostatic doorsill and paved porch of House 4 may be representative of some external influence; certainly, similar architectural details are known from southern England, at Maiden Castle and Compact Farm, Dorset (Sharples 2010, 220), for example. Nevertheless, the contemporary construction, and use, of timber and stone-walled roundhouses in the Phase 6 settlement indicates that, rather than a simple chronological change from wood to stone, multiple resources were available for use, and the context of this use requires greater consideration.

The durability of stone is a quality which, in many societies, leads to its equation with the petrified bones of ancestors (e.g. Boivin 2004, 7). The use of at least some stone from the denuded ramparts of Phases 2 and 3, or old clearance cairns, in the stone-walled roundhouses at Broxmouth, may have strengthened this link between past and present, and served to legitimise Phase 6 occupation. Since stone is used selectively within the Phase 6 settlement, confined as it is to Houses 4, 5 and 7 (with the possibility that Houses 2, 3 and 8 had, at least partially, paved floors), it is possible that the use of this material reflected or conferred a special status on the roundhouse occupants, or a different function for these structures altogether; a function in which permanence, and the creation of tangible links with the past, was particularly important.

Whether collected from the denuded ramparts, or from the shore, it is likely that stone was carefully selected, not only on the basis of practical suitability, but also on the basis of colour and texture (Boivin 2004a, 9; Charles *et al* 2004, 62; Scarre 2004, 187). Whilst the geological composition of the Phase 6 roundhouses is not recorded in detail, where noted, sandstone appears to have been the predominant geology utilised, with an apparent deliberate avoidance of limestone; the exception to this is the predominance of limestone in House 1, and its underlying deposits, and the packing stones of the entrance, and other large (JFQ and JFV), postholes in House 3 (site book).

Despite the relative absence of limestone in the Phase 6 roundhouses, both sandstone and limestone are available in close proximity to Broxmouth (Fig. 5.2). Indeed, the shoreline from White Sands to the Barns Ness lighthouse yields 'the most extensive limestone outcrops in central Scotland' (Browne *et al* 2010). The relative lack of limestone utilised at Broxmouth is also surprising given the limestone geology of the site itself, although it appears that the enclosure ditches of the Phases 2 and 3 did not cut bedrock (Broxmouth archive), and this resource may therefore have been difficult to access.

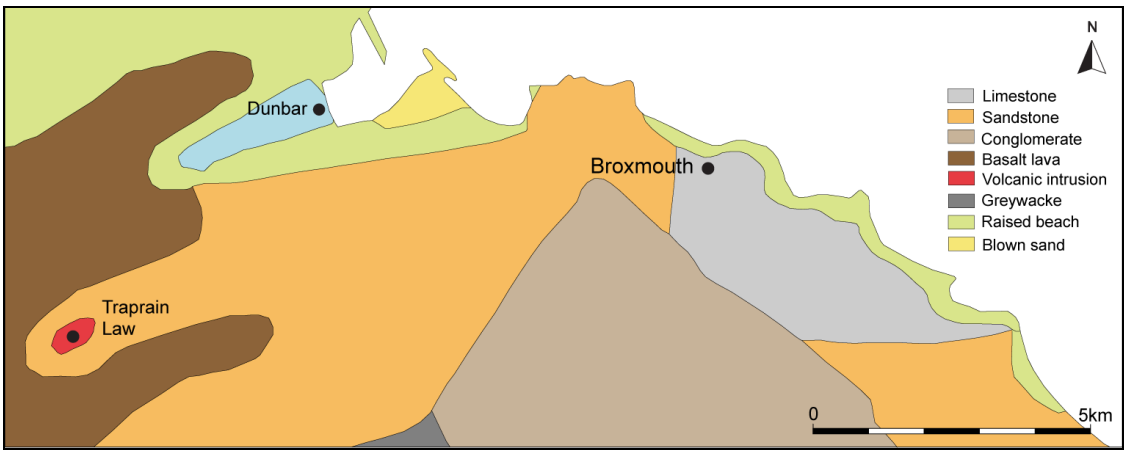


Fig. 5.2 Geology of Broxmouth and its environs (after image copyright East Lothian Council)

Limestone in the Scottish central belt is generally softer than elsewhere (Hannis *et al* 2008, 5), resulting in a predominant use of sandstone for architectural purposes in the historic period. This is, however, unlikely to have been an overwhelming factor in the choice of fabric for the Phase 6 roundhouses at Broxmouth, particularly given the frequency with which it appears to have been renewed or replaced. None of the stones used at Broxmouth appear to have been carved or dressed, and thus suitability in this regard does not appear to have been a factor in the choice of either geology.

Colour, and other 'non-functional' properties, may have made sandstone more desirable for the construction of the Phase 6 roundhouses. Certainly, any random sample from the nearby coastline attests to the variety of colours and textures afforded by the various sandstone geologies available (Fig. 5.3). In many cultures, brightness and colourfulness are considered symbolically potent and are frequently associated with the power of ancestors, or with particular social identities (e.g. Taçon 2004, 31; cf. Boivin 2004a). It is possible, then, that a range of coloured sandstones was employed in construction of the Phase 6 roundhouses at Broxmouth, with freshly collected pieces perhaps complementing re-used rampart material, with its aged patina (cf. Scarre 2004, 193). In this way, 'greying' of the fabric through the use-life of the Phase 6 roundhouses at Broxmouth may have served to symbolise the 'ageing' of the building and its predecessors occupying the house-stance, while the bright colour of freshly collected stone may have symbolised the social 're-birth' of particular structures and their households.

Fig. 5.3 Various coloured sandstones at the Whitesands shoreline, 600m east of Broxmouth (photograph: author)

In Neolithic Orkney, Structure 10 at the Ness of Brodgar incorporated non-local red and yellow sandstone in its construction (Card 2010, 18), and it is possible that this was a deliberate display of the social and economic prowess of its inhabitants, or the community at large. This phenomenon appears to have been mimicked in Structures 1 and 8, on the same site, by the application of coloured pigment to plainer geological fabric (ORCA 2011). The incorporation of brightly coloured sandstones into the Phase 6 roundhouses at Broxmouth may likewise represent the conscious display of a resource only available to this coastal community, and one which emphasised this particular aspect of the inhabitants' identity. Indeed, the majority of the worked stone artefacts at Broxmouth are manufactured from sandstone (with the exception of mortar SF975 in House 4, pit JIS), many from some of the more brightly coloured varieties (Fig. 5.4). This

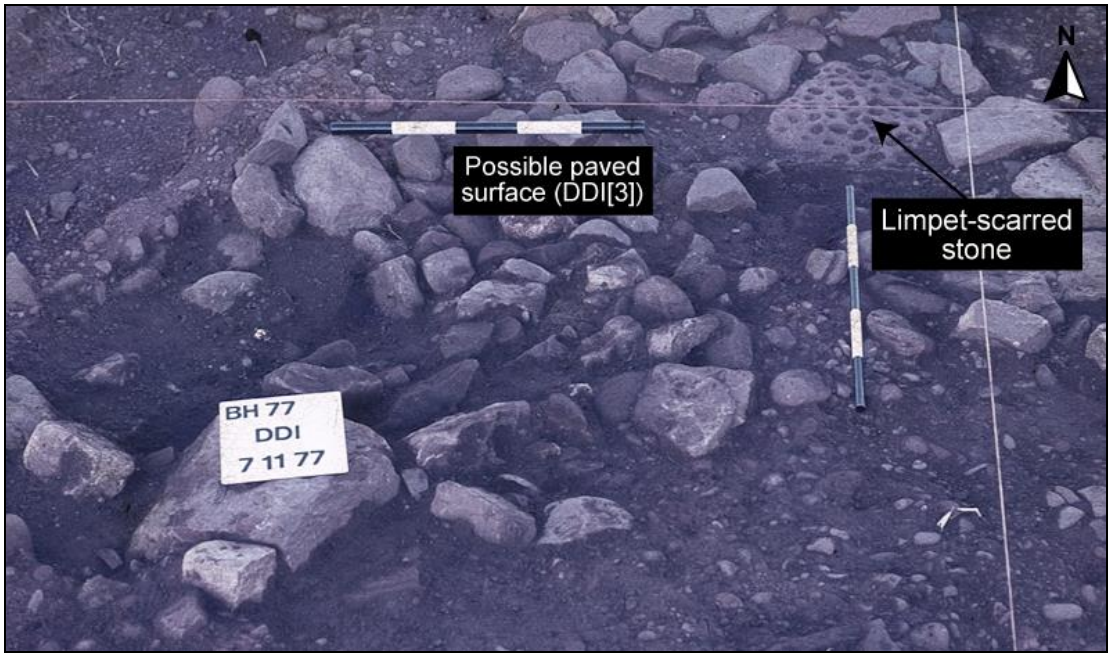
is despite the fact that fine-grained sandstones are, in general, disadvantageous for quern manufacture since, in the process of grinding, the surface becomes polished and does not retain its 'bite' (Heslop 2008, 30-34). A similar phenomenon is noted elsewhere, in North Yorkshire for example, where a significant proportion of querns are manufactured from a 'strong red or maroon' coloured Millstone Grit, a geology which is, more usually, grey in colour (Heslop 2008, 43). Certainly, red appears to have been a symbolically potent colour in the Iron Age and is used variously in contexts associated with death, violence and fertility (Giles 2008, 72-74). Indeed, in some ethnographic contexts, the colour red is perceived as the metamorphosed blood of ancestral beings, and is therefore used to cure, protect or strengthen (Horton, D. 1994, 820; Boivin 2004b, 166-167). The natural gravel subsoil at Broxmouth is cited as a red or pink colour, and may consequently have given this settlement location added cosmological significance; certainly, red gravel, albeit poorly recorded, appears to have been used in the flooring (DDI[4]) of House 2, and may have been employed for its symbolic, as well as its aesthetic, qualities.

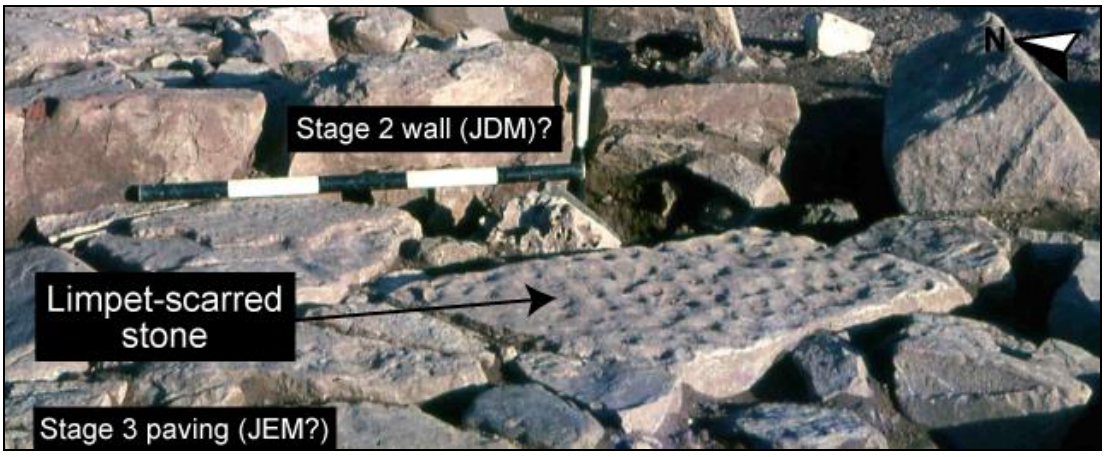
Fig. 5.4 Saddle quern fragment (SF944) at Broxmouth, manufactured from a particularly brightly coloured block of Old Red Sandstone (unstratified artefact recovered from machine spoil from outer ditch in the vicinity of the Phase 5 cemetery; photograph: The Broxmouth Project).

Many querns re-used as paving in the Phase 6 roundhouses were manufactured from quartzitic and micaceous sandstone. Archaeological and ethnographic evidence attests to the association of the sparkling properties of quartz and mica with spiritual and ancestral power (e.g. Aldhouse-Green 2004, 91; Saunders 2004, 136; Scarre 2004, 200). It is therefore quite possible that these geologies were deliberately selected for the roundhouse interiors, where light from the hearth, torches or lamps, enhanced these reflective properties.

A conspicuous characteristic of stone with a coastal provenance is limpet-scarring, honeycomb-weathering by salt-action, and pitting of the fabric by marine-life (Rodriguez-Navarro *et al* 1999, 1250; Fig. 5.5). Stones displaying these characteristics were frequently used in conspicuous locations in the Phase 6 roundhouses, such as in walls, paving, and posthole-packing protruding through floor surfaces (Fig. 5.6). Selection and inclusion of these stones, in these contexts, was doubtless conscious, and deliberate, and may have been designed to reference to the coastal identity of the Phase 6 inhabitants, or combined, perhaps, with terrestrially-provenanced fabric, to represent the interplay between different aspects of social identity. Furthermore, naturally-occurring limpet-hollows closely resemble the cup-marked decoration characteristic of the Neolithic and Bronze Age, and these stones may have been chosen for their perceived antiquity and connection with the past; cup-marked stones were also incorporated into the fabric of the Neolithic buildings at the Ness of Brodgar (Card 2013, 18). The timeless nature of the sea and the possible perceived antiquity of the limpet-scarred/ cup-marked stones may have been closely intertwined.

Fig. 5.5 Limpet-scarred (top), honeycomb-weathered (middle) and pitted (bottom) stones from Whitesands, near Broxmouth (photographs: author).


N
Possible paved surface (DDI[3])
Limpet-scarred stone
BH 77
DDI
7 11 77


N
Stage 2 wall (JDM)?
Limpet-scarred stone
Stage 3 paving (JEM?)


N
Stage 1 wall (JDL)
Limpet-scarred/ honeycomb-weathered stones

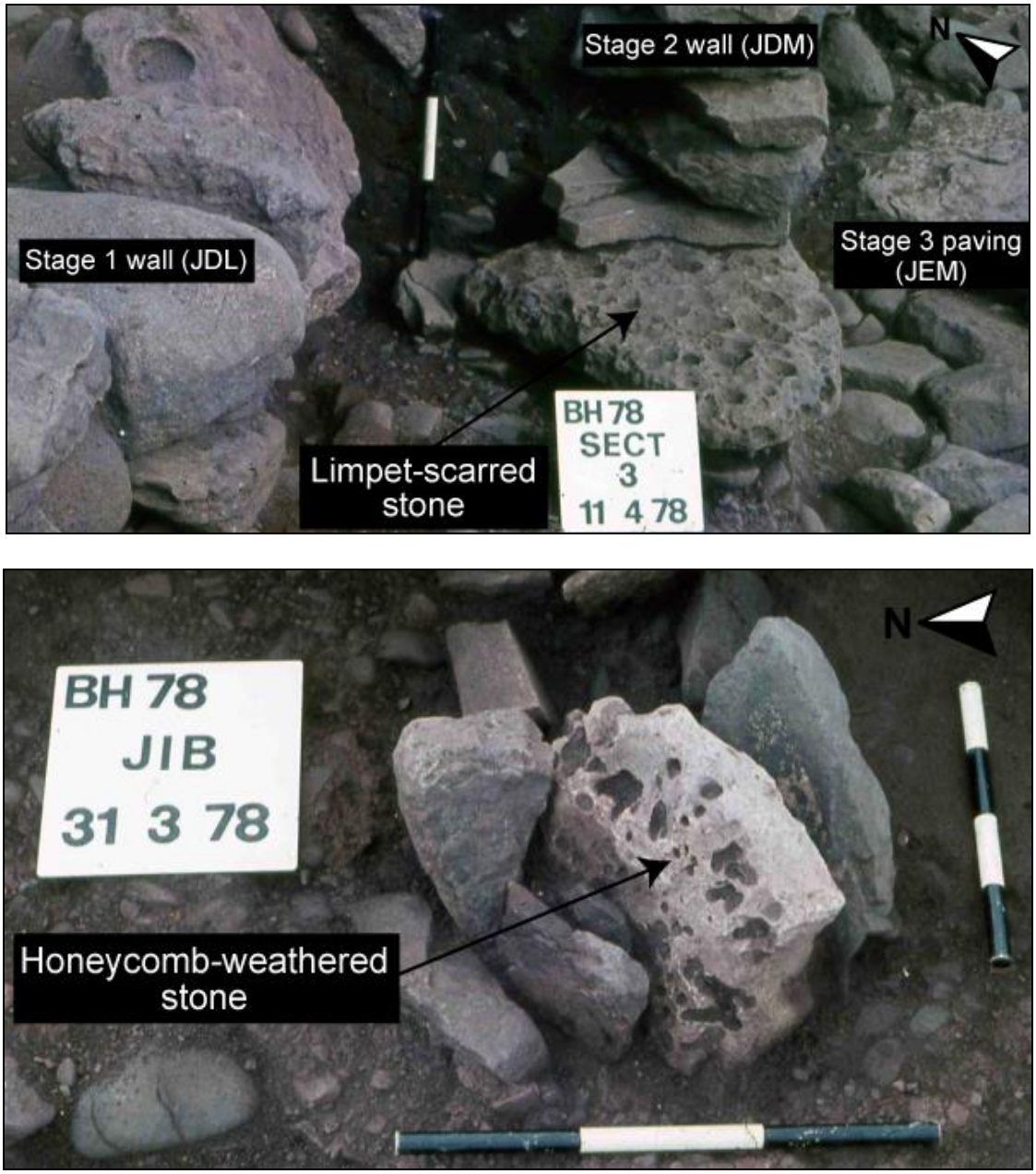


Fig. 5.6 Limpet-scarred and honeycomb-weathered stones in House 2 paving (overleaf, top), stage 4 paving in House 4 (overleaf, middle), stage 1 and 2 walls in House 4 (overleaf, bottom; this page, top), and a House 4 entrance posthole (this page, bottom; photographs: Broxmouth archive).

One of the most conspicuous uses of limpet-scarred stone is in the stone lining and capping of Grave J in the Phase 5 cemetery at Broxmouth (Fig. 5.7); in this case the natural hollows were embellished to form a decorative motif on several of the capstones. The number of these stones incorporated into this grave furniture may have been intended to make a deliberate statement regarding an aspect of the deceased's identity. Whilst individual identities and social roles can never be assigned specifically, it is tempting to interpret this individual as one of the deep-sea fishermen responsible for bringing the large, deep-water ling (Russ *et al* 2012) onto site! Furthermore, if the use of these stones in this capacity was visible to the Phase 6 inhabitants, their use in the Phase 6 roundhouses could reflect attempts to emulate the actions of ancestors and to unite past and present.

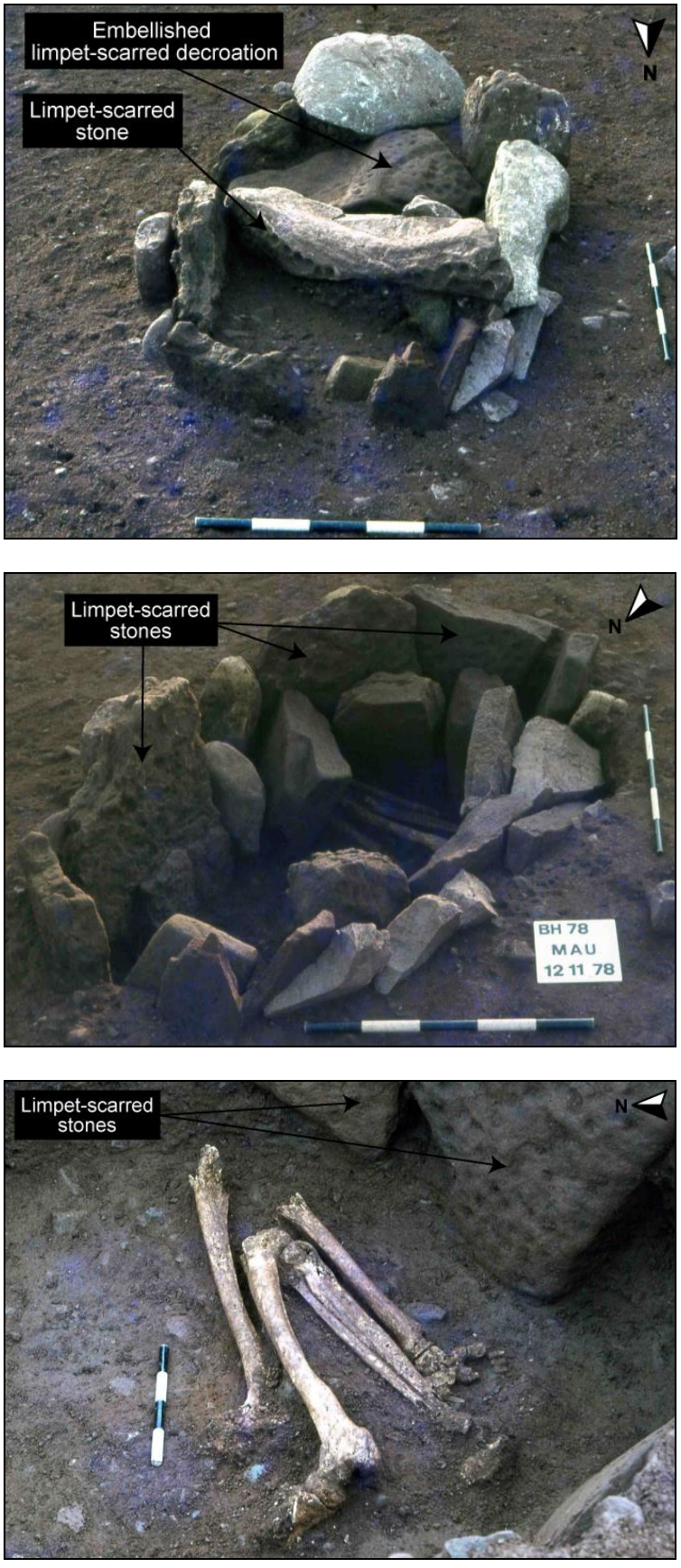


Fig. 5.7 Embellished, limpet-scarred cover-slab (top) and limpet-scarred/ honeycomb-weathered slabs elsewhere in the make-up of Grave J in the (Phase 5) cemetery at Broxmouth (photographs: Broxmouth archive).

In the Phase 6 settlement, a number of querns appear to have been manufactured from limpet-scarred stones and, in at least one instance (quern SF955 in House 6, pit JCG; Fig. 5.8; Table 4.15, section 4.6.3), and possibly more, the presence of tool-marks suggests the embellishment of these natural hollows, as in Phase 5 Grave J (Fig. 5.7). Similar examples of decorated querns are also known from Phantassie, a Late Iron Age settlement located west of Broxmouth, c. 2km south of East Linton (McLaren and Hunter 2007).

The depositional context of querns at Broxmouth, and throughout the Iron Age, suggests that they represented important, socially significant and symbolically-laden, artefacts; it is therefore unsurprising that they may have been used to convey aspects of social identity, in this case, aspects of coastal identity which complemented the (terrestrial) grain which they were used to process. In North Yorkshire, apparently votive quern deposits often comprise pairs of stones from different geological sources, suggesting that they were intended to communicate different aspects of complex social identities (Heslop 2008, 82).

Fig. 5.8 Quern (SF955) bearing embellished limpet-scarring and deposited in a pit (JCG) associated with House 6 (photograph: The Broxmouth Project).

5.2 **(Re-)Birth**

'One may suggest that as an analytical unit, the household occupies a particular position between two different scales- the individual human body that inhabits the space of a house on the one hand, and the projection of the house's corporate face as an embodiment of a collective agency in its interaction with other houses within a society, on the other hand' (Gell 1998).

5.2.1 ***Construction***

Idiosyncratic structural details of the Phase 6 roundhouses are likely to reflect both their functional and social roles; in relation to the latter, customisation of roundhouses may be taken to convey something of the social identities of their builders and inhabitants. Since it cannot be known whether builders and inhabitants of roundhouses were one and the same, the terms will generally be used synchronously. The fact, however, that certain deposits (querns, human remains, curated items), which frequently referenced the past use of these structures, were made during the construction process suggests that, if the future inhabitants were not the architects and builders, they oversaw construction and modification of the roundhouses with meticulous attention to detail.

Reconstruction of 4.3m diameter roundhouse (based on the smaller structures excavated at Glastonbury Lake Village) at Bredon Hill, took seven individuals five, five-hour, days, equating to 175 man hours (Reynolds 1967, 5); though they presumably used modern tools, and did not factor in the time taken to collect resources (*ibid,* 8). Whilst this roundhouse is smaller than any in the

Phase 6 settlement at Broxmouth (Table 5.2; Table A.1, Appendix A), Reynolds (in Harding *et al* 1993, 106) suggested that even the much larger Pimperne roundhouse, measuring 12.8m in diameter and therefore much closer to the diameter (12.6m) of House 6 at Broxmouth, is likely 'only to have been built by a few people', albeit working over a long period of time. Communal involvement would however have been likely for the collection of resources, and for less skilled and more repetitive tasks such the construction of wattle hurdling, and the manufacture and application of daub. Basic carpentry is likely to have been a ubiquitous skill in prehistory, and it is thus unlikely that any particularly specialist knowledge would have been necessary. Furthermore, even in areas where timber roundhouses predominate, the facing of hillfort ramparts with stone is fairly widespread, and it is therefore likely that, whilst not as ubiquitous as carpentry, rudimentary drystone walling could have been accommodated within the skills base of local communities; particularly so at Broxmouth given the abundance of local stone (at the coast) with which to practice!

The smaller diameters of the stone-walled roundhouses at Broxmouth (Table 5.3; Fig. 5.9), which parallel, in their initial stages, the average (6m) for this type of structure elsewhere in the Tyne-Forth region (Jobey 1964, 45), are, however, likely to be due to the structural constraints of drystone construction, particularly for free-standing elements of single-skinned walls (i.e. near the front of the structures). The complex roundhouses and wheelhouses of Atlantic Scotland (with outliers in lowland Scotland), are, of course, larger than any of the structures at Broxmouth, but utilise sophisticated structural techniques likely to

have required specialist knowledge, possibly from outside the local community (cf. Armit 2006, 207; Romankiewicz 2011).

House	Stage	Dimensions (m)	Internal area (m^2)
1*	N/A	c. 10.0 (diameter)	78.5
2	N/A	11.0 (diameter)	95
3	N/A	8.7 (diameter)	59.4
4	1	7.3 x 6.8	38.5
	2	6.0 (diameter)	28.3
	3	6.0 (diameter)	28.3
	4	6.0 x 4.7	22.5
	5	3.5 x 5.3	8.2
5	1*	9.7 (outer wall) 8.2 (inner wall)	74 (total)
	2*	8.3 (diameter)	54
	3*	7.5 x 8.3	49
6	N/A	12.6 (outer wall) 9.4 (inner wall)	125 (total)
7	1	7.5 (diameter)	44.1
	2	7.5 (diameter)	44.1
	3/ 3a	7.5 (diameter)	44.1
	4	7.5 x 5.5	33.2
8*	N/A	7 (diameter)	38.5

Table 5.3 Dimensions of the Phase 6 roundhouses (table: author). *denotes roundhouse diameters based on projection of partially surviving wall-lines. In the case of House 1, the projected diameter is taken from a photograph showing the circular deposit of material upon which the roundhouse floor was founded (Fig. 4.4, section 4.1.1).

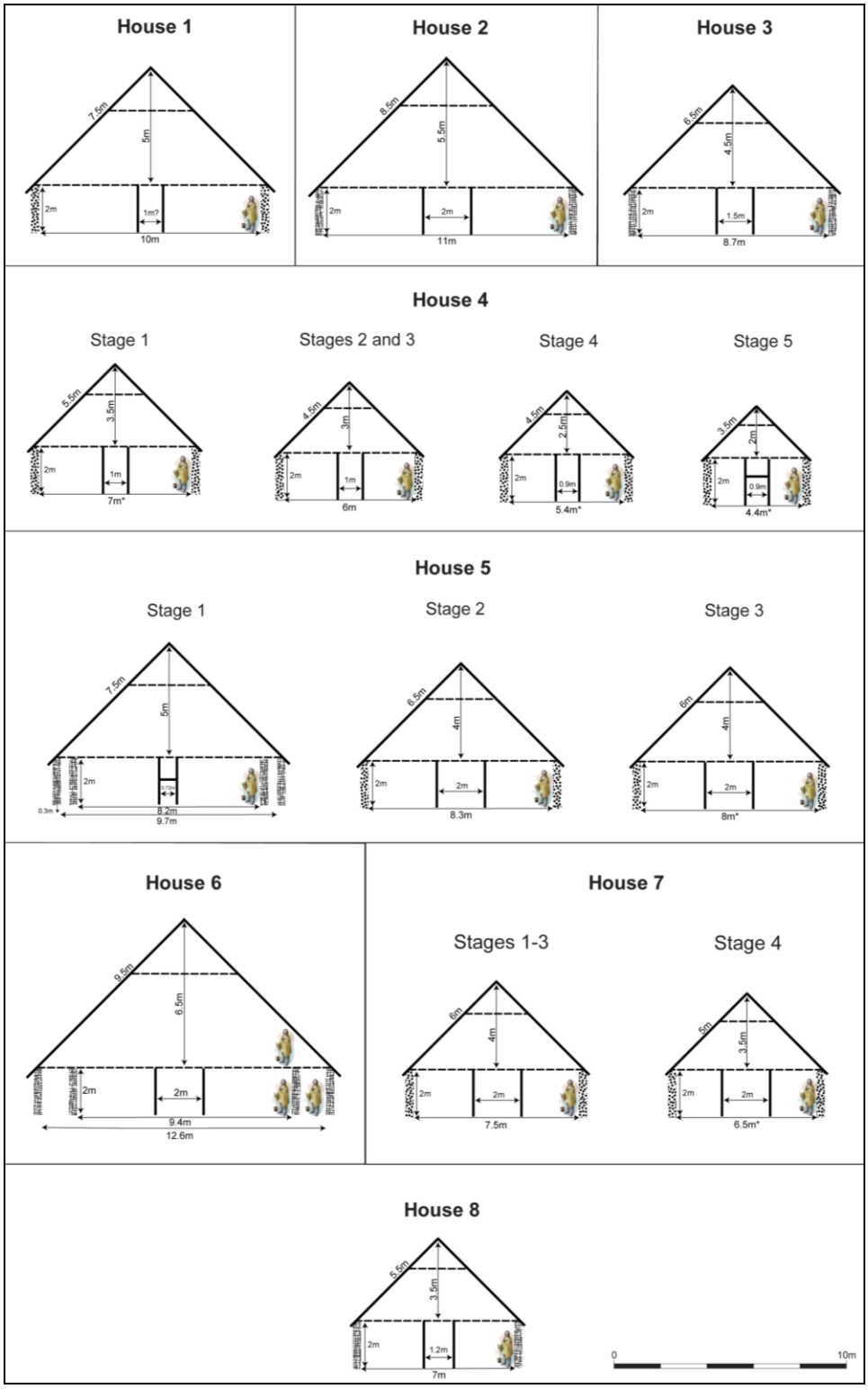


Fig. 5.9 Dimensions of the Phase 6 roundhouses (image: author). * denotes rounded average diameters of sub-circular structures. Rafter length includes 0.5m overhang for eaves. Illustrations assume that the rafters of successive structural stages (i.e. in Houses 4, 5 and 7) are bedded into the new wall-head and not on the original ground surface or wall-head, though this may equally have been the case. The figure (Woodland Trust 2012), scaled to the average height of a man (1.7m; BBC 2012), provides a human perspective on the proportions of each roundhouse, and their changing size and shape over time. Unlike House 5, it would have been possible to walk between the inner and outer walls of House 6, and to stand upright on an upper floor, even at the eaves. Calculations are based on the assumptions and formulae outlined in Appendix A.

The potential symbolic and cosmological properties of raw materials have already been discussed (section 5.1), and, with this in mind, it is perhaps unsurprising that ethnographic evidence suggests that the same concerns are also associated with the modification and transformation of these raw materials in the construction and manufacturing process (cf. Boivin 2004a, 13). In many societies, manufacture is akin to performance, during which the raw material, and sometimes the craftsperson themselves, undergoes physical and cosmological changes (Robinson 2004, 101); in others, construction represents the re-enactment of certain creation myths (Charles *et al* 2004, 59). In some societies, working with specific materials is restricted on the basis of age or gender (*ibid* 6, 8, 14), whilst in others, the construction process is governed by solstial/ celestial movements (cf. Owoc 2004a, 114), or by significant events in the life of individuals, households and communities.

Whilst we cannot know the specific significance attached to roundhouse construction at Broxmouth, the process would no doubt have involved considerable time, labour and resources, and is, therefore, likely to have represented a marked punctuation in the social life of the community; this hypothesis is perhaps supported by the relative abundance of structured deposits associated with the Phase 6 roundhouses.

5.2.2 ***Foundation deposits***

The process of construction marks the birth of a building, and in prehistory, as in many societies today (e.g. Borić 2008, 131-132; Miles 2008; Saunders 2004, 131-132), it appears that deliberate deposits were made to mark its foundation. In the modern, Western world, for example, inscribed plaques are frequently incorporated into a building's façade to commemorate the individual who commissioned, designed or inhabited it.

Foundation deposits are frequently associated with Iron Age roundhouses. Arguably the most iconic Scottish example is the deposition of a young boy under the floor of a wheelhouse at Hornish Point, South Uist (Barber *et al* 1989; James and McCullagh 2003, 90-92). This individual was deliberately killed, with evidence of sword-cuts to the lower back, and allowed to partially or fully decompose, before being divided between four pits (possibly after a considerable period of time), with the remains of young sheep and cattle which may represent the remains of feasting (Armit 2012, 204-207). Similarly, a human cranium and fragment of pottery were placed beneath the floor of Structure 3 at Cnip, Lewis, presumably also as a foundation deposit for this structure (Armit 2006, 58, Illustration 2.26).

The severe floor erosion observed in the unpaved Phase 6 roundhouses, attested by their dished profiles (e.g. Figs. 4.23 (top left), 4.60, 4.71) and the difference in height between the floors and wall-bases in the stone-walled structures (e.g. Figs. 4.34, 4.43 (bottom), 4.70), indicates that the roundhouse interiors saw significant use-wear, most likely the product of periodic cleaning

out of the debris accumulated during daily life. Thus, most of the artefacts within the Phase 6 roundhouses are likely to represent deliberate, or structured, deposits, which served an important social role. Indeed, 13 of the 15 querns for which depositional orientation was recorded, were deposited with their grinding faces down in the paving of the Phase 6 roundhouses, and cannot therefore be considered to represent the *in situ* remains of any primary corn-processing function they may once have fulfilled.

Several deposits appear to have accompanied the construction, and various episodes of rebuilding and modification, of the Phase 6 roundhouses; these deposits are predominantly artefactual, but also include faunal bone and, in one instance, human remains (section 4.4.4). Since deposits in the stone-walled roundhouses were frequently made merely at the start of a new constructional episode within the same building footprint, with no apparent hiatus in occupation, they may have been associated with both the abandonment of the previous stage and the foundation of the next; it may, therefore, be more useful to describe these deposits as *transitional*, to reflect this continuity of occupation and the possible liminal state of the roundhouse, and its occupants, at this time.

Founding walls

The majority of foundation deposits have been recorded in the stone-built roundhouses, where querns and other worked stones remain *in situ* in the well-preserved wall fabric and paving. Whilst querns and other worked stone undoubtedly served as convenient building material, the frequency of their incorporation into these structural features and, with reference to the paved

floors in particular, the apparent deliberation with which they were placed, suggests more than functional concerns were involved. At Broxmouth, saddle querns are more abundant in the roundhouse walls, whilst rotary querns are more common in the paved surfaces (Table 5.4). This phenomenon is perhaps more to do with the morphological suitability of the different quern types for each constructional context, rather than indicating that the earliest stone walls pre-dated the saddle-rotary transition of c. 200BC, or earlier (Armit 1991, 192). At Huckhoe, Northumberland, however, broken beehive and bun-shaped rotary querns predominated in wall-faces and wall-cores, with only one saddle quern recorded from the site (Jobey 1959, 246-247).

Quern type	Deposit type	
	Wall	Paving
Saddle	3	1
Rotary	1	13

Table 5.4 Relative deposition of rotary and saddle querns in wall and paving contexts in the Phase 6 roundhouses (table: author)

Marking entrances

Roundhouse entrances, which are often the focus of elaboration and monumentalisation, also appear to have been a particular focus for foundation deposits. At Broxmouth, the only two stratified metal artefacts associated with House 2 were recovered from entrance postholes (Table 4.5), whilst large caches of worked antler debris were recovered from the entrance postholes of House 7 (Table 4.18). Meanwhile, the entrance postholes of House 3 are recorded as having limestone post-packing (site book), unusual in that most of the Phase 6 structures which feature stone fabric, with the exception of House 1, appear predominantly to have been constructed from sandstone.

Remembering ancestors

Other items appear to have been popular foundation deposits. Stage 2 of House 4, for example, appears to have begun with the deposition of two fragments of ox-skull at the base of the stage 2 wall (Fig. 5.10, top). This was then echoed in stage 4 of the same structure by the deposition of a sheep skull (DKO) between the inner and outer skins of the stage 4 wall (Fig. 5.10, bottom).

Fig. 5.10 One of the ox-skull fragments deposited at the base of the stage 1 wall (top) and the sheep skull fragment (DKO) deposited at the base of the outer face of the stage 4 wall (bottom) of House 4 at Broxmouth (photographs: Broxmouth archive).

Another intriguing example is the bone ‘scoops’ (SF286 and SF289) which were deposited at the base of both the stage 1 (earliest) and stage 5 (latest) walls of House 4 (Fig. 5.11). It is possible that both animal skulls and bone scoops were common foundation deposits, another scoop (SF438) having also been recovered from a posthole associated with House 1. Alternatively, the memory of the initial deposition of these items may have been carried through various stages of House 4’s occupational history, perhaps via oral tradition, with the later deposits representing a deliberate reference to the earlier ones.

Fig. 5.11 Bone scoops (SF286, top; SF289, unfinished, bottom) deposited at the base of the stage 1 and stage 5 walls of House 4 respectively (photographs: The Broxmouth Project)

In House 5, the deposition of a part-worked antler, possibly a tool (SF398; Table 4.13; Fig. 4.62, section 4.5.2), on the floor of the stage 2 scoop, may have served as a constant visual reminder to the House 5 inhabitants of the individuals who designed, built and furnished this roundhouse, particularly if they were not the same individuals who were destined to occupy it; the caveat to this interpretation, however, is whether or not the slabs were packed with earth or covered with an organic floor. Pieces of antler also appear to have been deposited under the paved surface of Phase 1 House B (Fig. 3.3), and may have served a similar function; if this is the case, then this phenomenon appears to have been a long-lived one, spanning several centuries, at Broxmouth.

The deposition of querns in House 4 also attests to the desire to retain links with former structures on this house-stance. Whilst the morphological nature of querns makes them ideal for secondary use in paved surfaces, the nature of their distribution within the various stages of House 4, and indeed in other depositional contexts in the Phase 6 settlement, suggests that their use was more then merely functional. The four querns (SF937, SF941, SF934, SF931) incorporated into the stage 3 paving in House 4 were all placed towards the rear of the structure (Fig. 4.43, section 5.3.1; Appendix B), with two of them (SF941, SF934) positioned so that they overlay, and sealed, the largest of the stage 2 pits (JIS), itself apparently the subject of structured abandonment and thus possibly a symbolically, as well as functionally, important feature. It is possible that, as suggested at Solla, North Uist (Campbell 1991, 133) and elsewhere (e.g. Rennell and McHardy 2008, 15), in addition to serving as a foundation

deposit for the paving, libations were poured through the feeder-pipes of the rotary querns into the cavity below. This act may have formed part of the protracted abandonment of this feature, and of the stage 2 roundhouse, and helped to create physical links between the two structures, and their inhabitants. Querns were also incorporated into the paved floors of stages 4 and 5 of House 4 (SF954 and SF950, and SF966, respectively). These were located in similar relative positions to those of stage 3, towards the rear of the roundhouse interior (Fig. 4.46, section 4.4.4); although, of course, construction of the stage 4 and 5 walls brought this part of the structure ever closer to the centre of its stage 3 footprint. Perhaps this recurrent position indicates a continued symbolic function for this part of the roundhouse interior. Alternatively, and not necessarily contradictory to this interpretation, it may be the result of a desire to reference the former relative position of the querns of previous occupational stages, and ultimately, of the stage 2 pit itself.

The similarity in the size and shape of slabs incorporated into the stage 1 wall of House 4 and placed against the stage 4 wall prior to infilling of the intramural space in stage 5 (Fig. 5.12), may also represent a desire by the stage 5 inhabitants to bracket these episodes of habitation and to confine all previous stages of occupation to a deeper past, with (the now much smaller) House 4 taking on a renewed social role in stage 5 (see section 5.3.1).

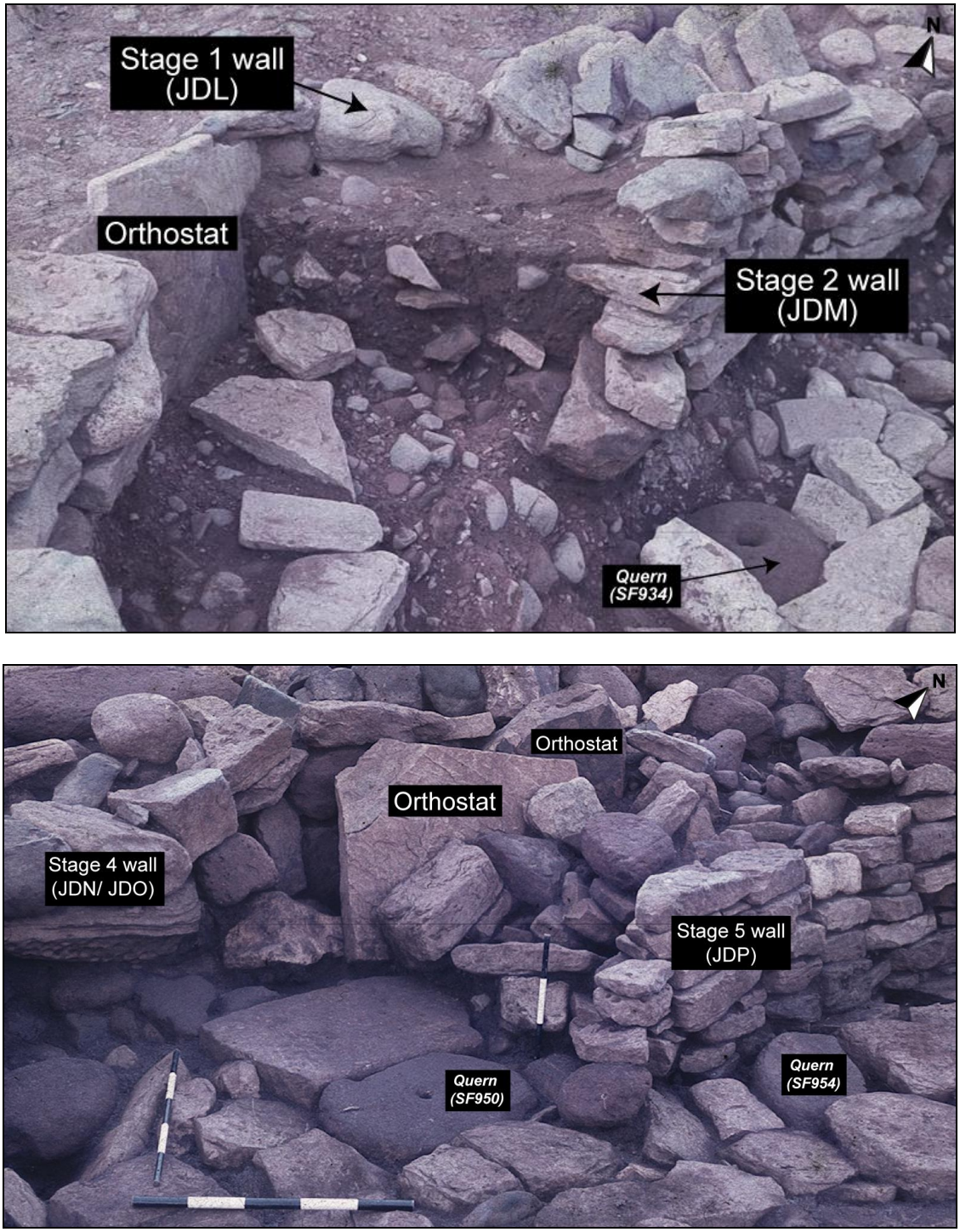


Fig. 5.12 Orthostats incorporated into the stage 1 wall (top) and placed against the stage 4 wall (bottom), prior to infilling of the intramural space in stage 5, of House 4 at Broxmouth (photographs: Broxmouth archive).

Curation of objects

In some instances, artefacts appear to have been curated for some time prior to their deposition as foundation deposits, in order, perhaps, to create a tangible link with past structural episodes and their inhabitants. In House 4, gaming pieces (SF272 and SF273) deposited at the base of the stage 3, during the construction of the stage 4 roundhouse, appear to belong to the same set (Hunter *et al* in press, 2013) as that (SF274) deposited in the infill of a stage 2 pit (JIS; Fig. 5.13). Similarly, sherds from the same vessel (V120) were deposited during construction of the stage 2 wall (JDM) and the infilling of a stage 2 pit/ posthole (JIW/ JIX) some time later.

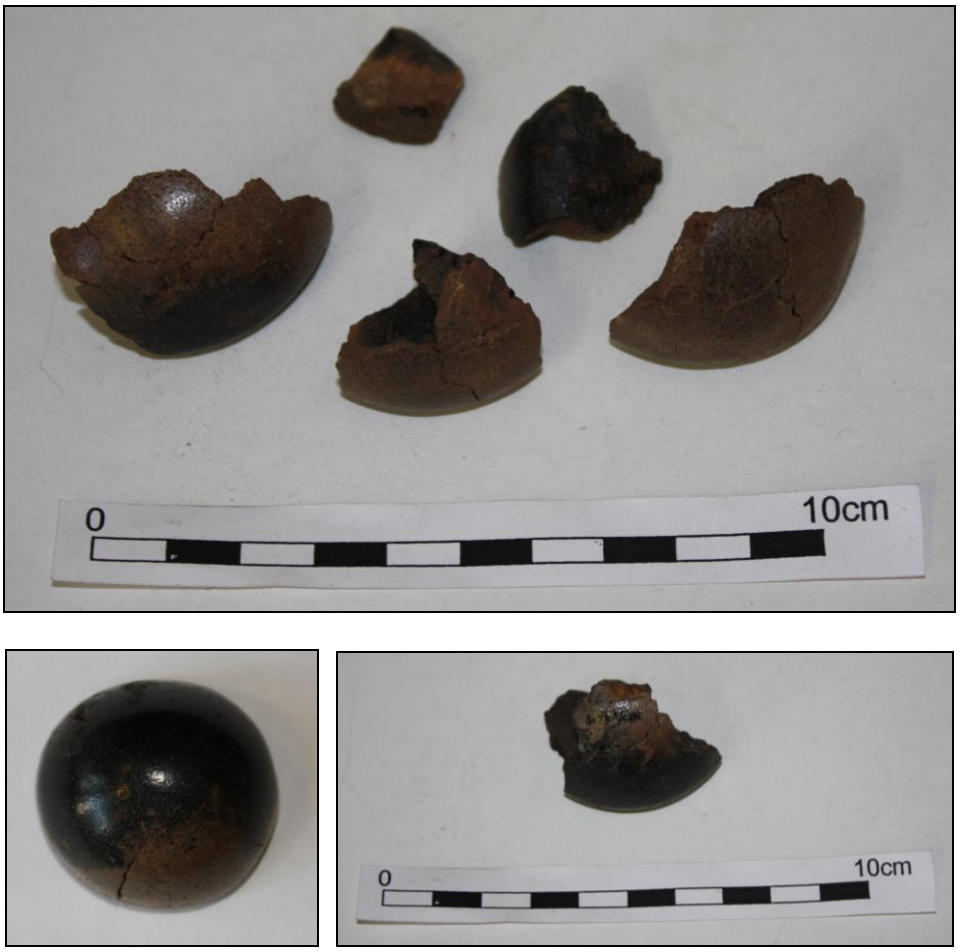


Fig. 5.13 Gaming pieces from the infill of stage 2 pit (JIS; SF274; top) and deposited at the base of the stage 2/ 3 wall prior to infilling of the intramural space in stage 4 (SF272 and SF273, bottom left and right respectively; photographs: The Broxmouth Project).

Meanwhile, human remains, from the same intramural context as the gaming pieces, were described by the excavators as in a ‘weathered and abraded condition’ (Hill 1995). Whilst excarnation may be one explanation, the AMS date of the cranial fragment (14; 50 cal. BC- cal. AD 90, SUERC-24259) compared to a complementary sample from between the stage 3 and 4 paving (cal. AD 20-140, SUERC-33363; Table 4.12), suggests that the former may have been curated for some time prior to deposition. It would be tempting to see these as the remains of a former House 4 inhabitant, physically incorporated into the fabric of the stage 4 roundhouse to provide protection, and a tangible link to the ancestors. Sharp-force trauma, most likely a sword cut, to the cranial fragment (Fig. 5.14), together with isotopic data, suggests, however, that this individual may have been a non-local who certainly appears to have met a violent death, either as the product of warfare or ritual killing (Armit *et al* 2013), and thus prompts us to consider more complex social processes. One scenario could see the incorporation of the remains of slain enemies into roundhouse architecture as some form of symbolic subjugation of neighbouring groups and their symbolic absorption into the Broxmouth community, and/ or communal identity.

Fig. 5.14 The human cranial fragment (14) deposited at the base of the stage 2/ 3 wall in House 4 at Broxmouth, displaying sharp-force trauma, probably a sword cut (photograph: The Broxmouth Project).

Whilst the curation of items or the remembering of specific depositional events across several generations may stretch our modern notions of what is realistically possible, the potential of oral communication in non-literate societies should not be under-rated, and such deposits may have formed an integral part of genealogy myths integral to household life. Indeed, for communities in the Tari Basin of Papua New Guinea, genealogical history can extend over 500 years (Ballard 1994); beyond that, the mythical past takes over (Gosden and Lock 1998, 5-6).

In non-literate societies, curation may have taken place over a longer duration and played a more significant role than we may commonly envisage, with certain items passed between several generations, or related kin groups, and serving as mnemonic devices. One of the most remarkable findings of the Phase 6 settlement was that the inhumation (Grave 1: *505-390 cal. BC* at 68% probability; SUERC-21988; Hamilton *et al* in press, 2013) located adjacent to the northernmost entrance terminal of House 2 predated the roundhouse (cal. AD 70-240, SUERC-30944; Table 4.6) by several centuries. Either, this body was curated for a considerable period, an interpretation which may be supported by the Hornish Point boy (Armit 2012, 204-207) and the Cladh Hallan mummies (Parker Pearson *et al* 2005; 2007), and was deposited as part of the structured foundation of House 2, or the grave was marked or rediscovered through truncation of the settlement interior during Phase 6, and took on a new social role for the inhabitants of House 2.

5.2.3 ***Structural idiosyncrasies***

The roundhouses at Broxmouth display a huge variation in design and fabric, with no two sharing exactly the same morphology or developmental trajectory. This suggests a degree of, not only functional, but social, differentiation between the structures and the households which inhabited them.

Fabric

As noted in section 5.1.2, ethnographic evidence suggests that the quantity, variety and provenance of resources used in roundhouse construction may have conveyed different, and specific, social messages, such the age, sex, kinship affiliation and social status of their respective households.

Materials which were more labour intensive to extract and transport may have indicated individuals who could control or coerce a large labour force, whilst those sourced (directly or indirectly) from distant locations, would have served as a visual display of far-reaching social, and trade, networks. Other aspects of roundhouse construction may have conveyed a more communal identity, such as the limpet-scarred and honeycomb weathered stones in many of the Phase 6 roundhouses at Broxmouth (Fig. 5.6, section 5.1.2), which may represent a conscious display of coastal identity. Obtaining sufficient quantities of timber for the construction of House 6, including long rafter lengths from older trees, from what was a presumably communally managed resource, may have required community-wide cooperation and mobilisation, and may suggest that this building served a communal, or socially important, function within the settlement.

Orthostats

Whilst ubiquitous as a construction technique elsewhere in later prehistoric Britain (Fig. 5.15), orthostats appear to have been seldom used in construction of the Phase 6 roundhouses at Broxmouth. When orthostats are used, we might, therefore, expect them to have been deliberately chosen for some social or symbolic reason. The incorporation of orthostats into the stage 1 and 4 walls of House 4, and the stage 4 wall of House 7, at Broxmouth therefore requires some discussion.

The location of orthostats directly opposite the entrance, whilst perhaps partly influenced by the subsequent social organisation of space within the roundhouse, would also have created a monumental façade to the inner wall face, and one which was immediately visible to those entering the structure. It is intriguing that the distinctive triangular shape of the stage 4 wall orthostat shares similarities with the triangular lintels frequently employed in broch architecture, as at Culswick, Shetland and Dun Dornadilla, Sutherland (Fig. 5.16). Whilst a triangular shape would have gone some way to spread the weight of the wall away from the void of the entrance passage, these lintels certainly display more than basic structural necessity (Armit 2003, 63). It thus appears that, in many cases, these triangular lintels were employed solely for aesthetic embellishment and the conspicuous display of skilled craftsmanship in order to heighten the monumental approach to the structure, and subsequently, convey the social standing of its commissioner and/ or inhabitants.

Fig. 5.15 Orthostats used in the stone-walled roundhouse at Trevelgue Head, Newquay, Cornwall (top; photograph: Nowakowski and Quinnell 2011, 111, Plate 32) and, more locally, at Edin's Hall broch, Scottish Borders (bottom; photograph: author).

Fig. 5.16 Triangular-headed lintels at Culswick broch, Shetland (top) and Dun Dornadilla, Sutherland (bottom; photographs, top: J. Bruhn, Historic Scotland; bottom: Harding 2009, 93, Fig. 21)

The orthostats in the stage 1 and 4 walls of House 4 may, in addition, have had a cosmological significance for the inhabitants of House 4, placed as they were at the heart of the roundhouse interior. At Leskernick, on Bodmin Moor, the Bronze Age roundhouses 'were commonly constructed to incorporate 'natural' large triangular-shaped, and whale-shaped, 'earthfast' stones ['house backstones'] opposite their entrances' (Hamilton *et al* 2008, 609). Some of the earthfast stones would have helped to divert periglacial movement of clitter downslope, thus creating open ground ripe for the construction of a house-platform in front of them (*ibid*). Other, non-earth-fast stones, particularly of triangular-, pyramidal- or oblong-shape, were, however, deliberately selected and placed in these positions, many subsequently fronted by niches or raised platforms (Bender *et al* 1997, 171; Fig. 5.17). Whilst the stones appear to have been the focus for ritual activity within the roundhouses (see section 5.3), this was undoubtedly borne out of the impetus behind their initial inclusion in the roundhouse fabric. Bender *et al* (1997, 171), for example, suggest that the roundhouses at Leskernick were a microcosm of their surrounding landscape, in which the orthostats referenced the rock-outcrops and tors, themselves the subject of long-standing ritual focus. In this way, the roundhouse orthostats served as an *axis mundi* which tied each roundhouse and its inhabitants into the cosmology of the wider community and its landscape. The same has been argued by Borić (2008, 116) for the distinctive, traezpoidal shape of the Early Neolithic houses at Lepenski Vir, in the Danube Gorge, and their apparent mimicking of the nearby Treskavac mountain. Perhaps a similar phenomenon occurred at Broxmouth, with the inclusion of orthostats in House 4 representing an attempt to emphasise the elevated position of the Phase 6 settlement over

the surrounding plain and to reference the nearby sites of Traprain and North Berwick Law, the former of which, at least, appears to have held a long-standing social significance and to have seen continued ritual focus at this time.

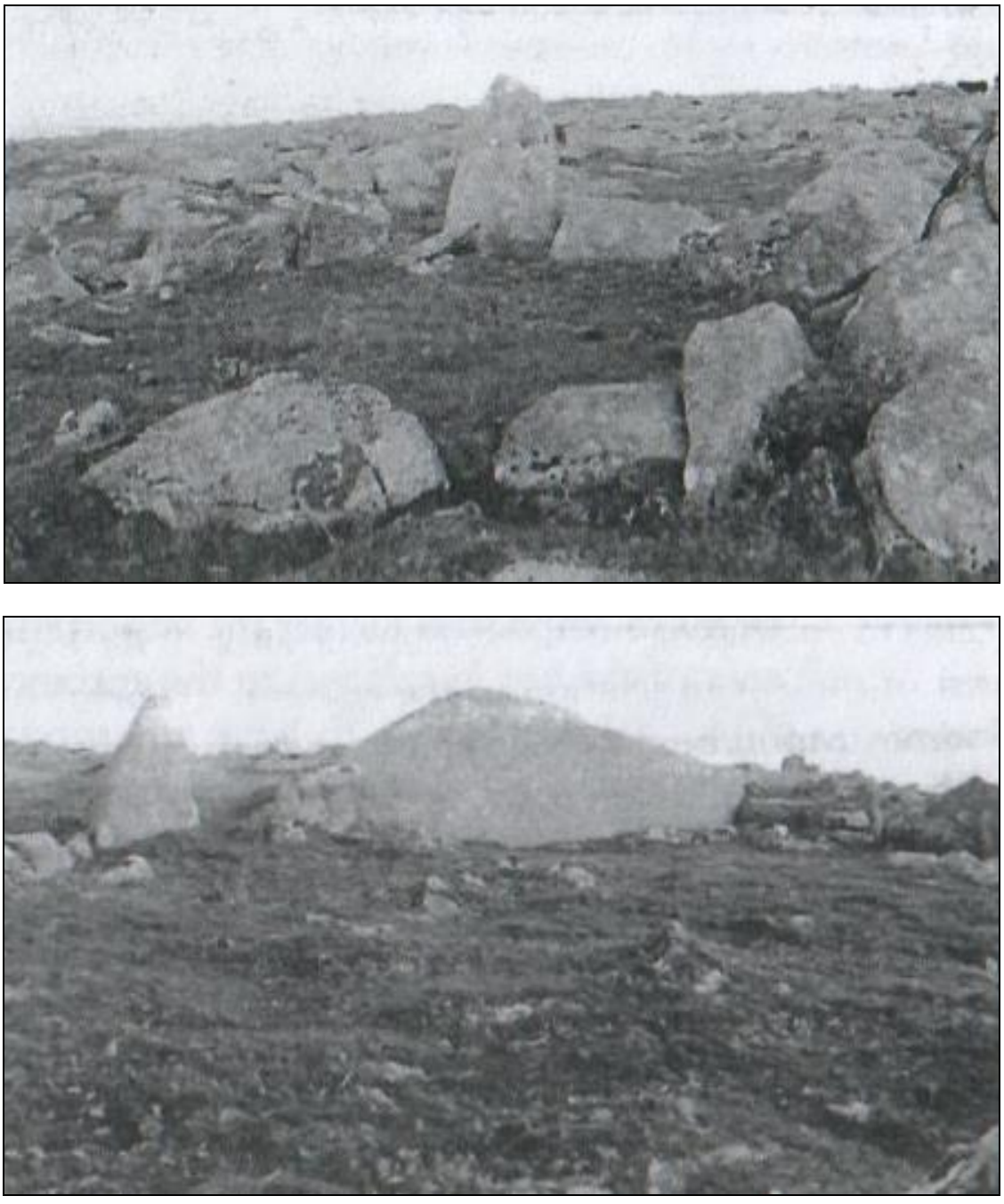


Fig. 5.17 ‘Shrine stone’ at the rear wall of House 23 (top) and natural outcrop ‘backstone’, with adjacent triangular orthostat in the rear wall of House 20 (bottom), in the western settlement at Leskernick, Bodmin Moor (photographs: Bender *et al* 1997, 171-172, Figs. 20 and 21)

Porches and entrances

The elaboration of Iron Age roundhouse entrances is well-attested across Britain (Fig. 5.18) and suggests that they served an important social and symbolic function (Harding 2009, 60; Parker Pearson and Richards 1994b, 48) as the boundary between outside and inside, communal and private, space. In the Maori meeting house, the junction of the eaves and the veranda represents the face of the ancestor, whilst the porch represents his brain (Bradley 2005, 48); in this way it represented the 'public face', or identity, of the inhabitants, and in this case, the community as a whole.

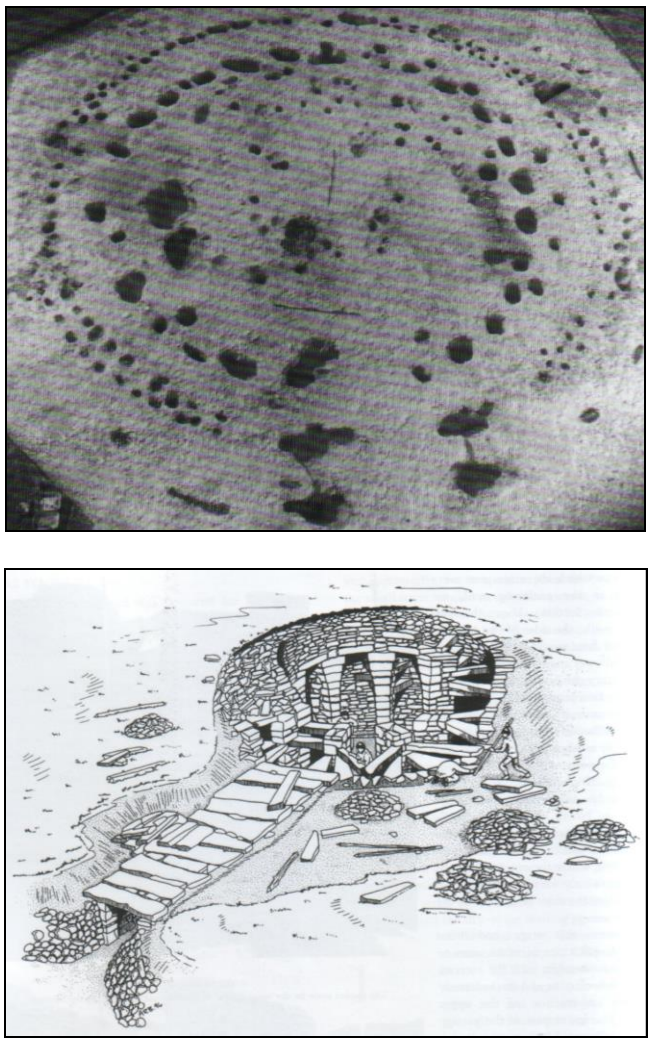


Fig. 5.18 Examples of elaboration and monumentalisation of the large, multiple-ring timber roundhouse at Pimperne, Dorset and the semi-subterranean wheelhouse at Cnip, Lewis (images, top: Harding 2009, back cover; bottom: Armit 2006, 200, Ill. 5.4a)

The presence of porches or entrance elaboration, beyond the increased size of entrance postholes for possible structural reasons (i.e. to provide additional support for the roof over the breach in the wall), is not seen in every roundhouse at Broxmouth. Indeed, the Phase 6 roundhouses tend to lack complex porches, apparently due to space constraints resulting from a desire to front onto and cluster around the arterial road. A lack of porches would also have facilitated movement between structures, and thus also appears to reflect their close functional and social relationships, once again emphasising the fact that they appear to have operated together in a complex social hierarchy, not as stand-alone units.

Houses 5 and 7 do bear some evidence for a short porch, but the only structure to display an elaborate series of external porch structures is House 4, significant in the fact that it does not front onto the arterial road. The proposed L-shaped plan of its early timber porch is particularly unusual, as is the alternative interpretation that it represents a four-sided structure with a raised doorway in the east (see section 4.4.1). Similar L-shaped porches have been noted elsewhere, such as at the Bronze Age settlement of Grimspound, Dartmoor, although many of the roundhouses here were ‘reconstructed’ after excavation in the 1890’s and their current plans must therefore be viewed with caution. Such a structure would control access into the House 4 interior, and the transition of an individual from one symbolic space to another, perhaps mirrored in the change from timber porch to stone-walled (and in stage 3, paved) interior. As is suggested for House 6, this elaborate timber porch may have communicated the elevated social standing or powers of negotiation of the House 4, or the

more general Phase 6, inhabitants, in the superfluous use of what must have been a managed, but not overly abundant, resource.

During the stage 4 modification of House 4, the timber porch was replaced by a paved porch with orthostatic door sill and pivot stone, which would have supported an inward-opening door. The absence of postholes flanking this surface suggests that it was open to the elements, since some earth-fast posts would presumably have been required if it was roofed. Nevertheless, this arrangement formed a formal approach to House 4, albeit one which was perhaps less controlling of movement than the earlier, timber L-shaped structure. The modification of the porch post-dates the introduction of paving into House 4 during stage 3, and cannot therefore be explained merely as utilisation of a new construction technique. This type of entrance arrangement is a common feature of stone-walled roundhouses in the Tyne-Forth region (e.g. at Riding Wood, Bridge House, Carry House and West Gunnar Peak; Jobey 1960), and Hill (1982a, 175) suggested that, whilst the earliest stages of the Phase 6 roundhouses pre-dated the Roman conquest of south-east Scotland, the paved porch and door furniture may indeed have been the product of some Roman cultural influence. If so, perhaps this modification represented a deliberate display of trade or other elevated social links with the Roman world, in the form of military establishments and associated civilian settlements in the Tyne-Forth region. It would also, in practice, have significantly altered the nature of the approach and access into House 4, although the provision of formalised door furniture, and presumably, a substantial door, would have

continued to restrict light and access, and to serve as a metaphorical boundary between outside and in.

Whilst they show no evidence of external porches, internal slots and posts flanking the entrances of Houses 2 and 3 attest to the presence of complex access arrangements within these structures also. ‘Internal hallways’ such as these may indicate an alternative response to the desire to control access, where space for an external porch was limited. In these instances, individuals may have been funnelled into the roundhouse interior, perhaps towards a central, focal point. In House 3, this was taken up by the large central hearth, though this may also have been blocked from immediate view by the partition running in front of it (Fig. 4.27, section 4.3.1). An extended hallway would also have allowed for the provision of multiple doors, which may have facilitated the control of light, draughts, and the symbolic transition of an individual from exterior to interior. In this way, these structural arrangements may have served a similar function to the modern porch or hallway, which is frequently littered with paraphernalia (e.g. wellington boots and umbrellas) restricted to outside use.

Decoration

Whilst more archaeologically elusive than structural details, the decoration and elaboration of Iron Age roundhouses is likely to have been an important aspect of their construction and use, particularly in the communication of a variety of specific social messages regarding the identity of the household within.

In many societies, decoration is a way of activating the power vested within, or giving life to, the raw materials from which structures and objects are manufactured (Robinson 2004, 99-101; Taçon 2004, 31, 36-37). For the Batammaliba of Africa, for example, the clay that is used to make mud houses is perceived as flesh, while the clay-based plaster that is applied to its surface is referred to as 'skin' (Boivin 2004a, 7). As such, the roundhouse walls serve as a base onto which multiple social messages can be inscribed, messages that can include kin and lineage affiliation, gender, social standing, or particular stages in the lifecycle of an individual or household (Boivin 2004a, 9; Bradley 2005, 48-49; Robinson 2004, 96; Saunders 2004, 132; Taçon 2004, 35-37). The Maori meeting house is, for example, considered in terms of the body of an ancestor, the rafters indicating the separate lines of descent from the origin (ridge pole), with the same scheme also extending to the decorated surfaces (Bradley 2005, 48-40).

Much of the shell recovered from Broxmouth appears to have been predated, by dog whelks, prior to collection, suggesting its use for a function other than food. Since much of this shell appears to be crushed, it is possible that it was used to manufacture limewash. Limewash would have served the practical function of preserving wattle and daub, and reflecting light around the roundhouse interior; this was noted as particularly effective by volunteers working in the roundhouses at St. Fagan's (Fig. 5.19), and would presumably be even more effective if also applied to the floor, as a substitute for the chalk used in some Wessex roundhouse reconstructions (Fig. 5.20). Beyond

practicality however, limewash would have been aesthetically pleasing and could have served as a base for more elaborate decoration.

Fig. 5.19 Lime-washed walls and timbers posts in the interior of the Moel-y-Gerddi roundhouse reconstruction at St. Fagan's, Welsh National History Museum, noted (volunteer, pers. comm.) as particularly effective in reflecting light around the structure by volunteers working within these structures on a daily basis (photograph: author).

Fig. 5.20 The white packed chalk floor of the reconstructed Little Woodbury roundhouse at Butser Ancient Farm, Hampshire, an effect which could also presumably be achieved with limewash (photograph: author).

Analysis, by raman spectroscopy, of white-coloured wall plaster from a ‘bath-house type’ building at Faverdale, Darlington, indicated that local shell was used as the colourant, an interpretation which has been extended to Holme House, Piercebridge (Proctor 2012). If the shades of white produced by shell, and perhaps different types of local shell, were different to those which could be achieved using terrestrial lime, then use of this resource in the manufacture of limewash may have been another way in which the Broxmouth inhabitants displayed their coastal identity. Alternatively, natural pigments, perhaps varying from region to region, could have been added to create a variety of different colours (Fig. 5.21), each possibly with a different social meaning (cf. Boivin 2004b). Certainly, ethnographic studies give us an insight into the ways in which different colours may take on different social meanings. In some societies, white pigment is perceived as the powdered bones of ancestors (Robinson 2004, 97), whilst red is considered akin to blood (Boivin 2004a, 16), and, for Rajasthani villagers, black soils are considered too impure for use as house plaster (Boivin 2004b, 172). Perhaps different colours had similar social significance for the Broxmouth inhabitants.

Fig. 5.21 Roundhouse reconstructions at Butser Ancient Farm showing the effect of different coloured daubs and lime-washes (top: Little Woodbury, middle: Moel-y-Gerddi reconstruction; bottom: Glastonbury Lake Village, Mound 74; photographs: author)

Limewash need not have been restricted only to the wattle-and-daub-walled structures, and could have been applied directly to the stone walls of Houses 4, 5 and 7 (Fig. 5.22); indeed, at the Ness of Brodgar, Orkney, pigment appears to have been applied directly to the wall slabs (Card 2013; Fig. 5.23). Lines of stakeholes running around the inner walls of Houses 4 and 7 (stages 1-3) suggest, however, that, in some stages of occupation, they had wattle linings. Whilst the stone walls would have conducted heat out of the building, the sheer volume of material behind them, at least in later phases, and the semi-subterranean nature of the house-stances, makes the construction of these wattle walls for the sole purpose of insulation unlikely. It is possible that wattle walls served some kind of storage function, from which implements were hung, particularly during later structural phases when pits had been sealed by paving, but it is equally likely that they were daubed to serve as a base for lime plaster and other decorative motifs (Fig. 5.24). Indeed, rare glimpses of potential pigments and motifs have been provided by the excavation of 1,500 fragments of painted plaster from an Iron Age settlement (c. 600BC) in Saxony-Anhalt, Germany, thought to have formed the façade of a house (Anon 2011; Fig. 5.25). As Fig. 5.24 (top right) indicates, and as is suggested by the Maori meeting house (Bradley 2005, 48-49), it is likely that not only the walls, but other internal, timber elements, such as ridge-poles, rafters and internal posts, may also have served as a base for decoration.

Fig. 5.22 Lime-wash applied directly to the stonework of the reconstructed Conderton, roundhouse (Worcestershire), at St. Fagan's, Welsh National History Museum (photograph: author).

Fig. 5.23 Painted wall slab *in situ* in Structure 8, Ness of Brodgar, Orkney (photograph: Card 2013)

Fig. 5.24 Samples of decoration in the reconstructed Moel-y-gerddi roundhouse at St. Fagan's (top), and Glastonbury Lake Village Mounds 74 (middle) and 59 (bottom) at Butser Ancient Farm, Hampshire (photographs: author).

Fig. 5.25 A small sample of painted plaster from an Iron Age settlement, dating to around 600BC, in Saxony-Anhalt, Germany, and thought to have formed the façade of a house (photograph: Anon 2011). The wall, reconstructed from 1,500 pieces, measured 1.5m high by 2m long.

Whilst we cannot know the nature of surface decoration of the Broxmouth roundhouses, the variety of morphological designs and fabrics witnessed in the Phase 6 settlement, coupled with insights provided by ethnographic studies, suggests that this would have been integral to individual household, and group, identity.

5.3 **Life**

'We must... consider built spaces as social arenas, where the unfolding of daily life inscribes individual actors with individual microhistories. One should envision the negotiation of built space as a continuous process where 'boundaries are drawn only to be erased or redrawn in another place' (Carsten 1997, 27).

Iron Age roundhouses have traditionally been perceived as a homogenous group of domestic structures, with little differentiation between them. The Phase 6 roundhouses at Broxmouth not only indicate the contemporaneous use of a variety of fabric and construction methods (Chapter 4), but a great variation in the use of space within them. This will have been influenced/ facilitated by both the design of the structure, and would thus have been an important consideration in roundhouse design (or conception, section 5.1), and by the spatial arrangement of features within them. Furthermore, as the quote above suggests, roundhouse morphology does not dictate a static use of space, as would a structure with a set of discrete and permanent 'rooms', but one in which boundaries (both physical and conceptual) could be drawn, erased and renegotiated; at Broxmouth this is both true within a single structure, and for successive structures occupying the same house-stance (cf. House 4, section 4.4).

It is also important to bear in mind that not all roundhouses may have been home to human occupants, with the likelihood that some structures, or parts of structures, housed animals at certain times of the year. Other structures may

not represent dwellings at all, and may have served more specialist functions as workshops, storage areas and more private or ritual spaces. It must however be borne in mind that many of these activities, considered 'non-domestic' today, are likely to have been deeply woven into Iron Age domestic/ daily life, and therefore, also undertaken within 'domestic contexts' (cf. Bradley 2005). Only relatively few activities, metalworking, butchery and tanning, for example, may have taken place elsewhere.

5.3.1 ***Use of space***

Whilst a homogenous model of 'domestic architecture' is now increasingly recognised as problematic, the specific use of individual roundhouses, despite developments in excavation methodology and post-excavation analysis, is still far from well-understood. On a superficial level, the differential size of the Phase 6 roundhouses at Broxmouth (particularly between the stone and timber structures; Table 5.3, section 5.2.1) would have had a very real impact on the available internal area, and the ways in which it was used and organised; proposed use of space is therefore likely to have been an integral part of the design of individual structures.

Distributions of both internal features and artefacts have, however, failed to reveal the primary use of structures, or the daily activities which may have taken place within them. This problem has been exacerbated by the increased recognition that many recorded artefacts are likely to represent deliberate 'structured deposits', rather than the products of accidental loss, representative of daily activity (Armit 2006, 241, 244; Bradley 2005, 208-209; Webley 2007,

132-140). This further supported by an increasing body of evidence, including the dished profiles of the Broxmouth roundhouses, and more specifically in House 4, by the recording of a ‘rubbish deposit’ outside the paved porch (site book), that Iron Age populations engaged in the frequent sweeping or cleaning out of roundhouse interiors of daily refuse.

Feature distributions are also difficult to interpret. The truncation of floor surfaces, and, in the case of Broxmouth, a tendency not to record spreads of material where they did exist (with the exception of House 1 where deposits were recorded in ‘spit-like’ fashion), makes the stratigraphic relation of features, difficult, so that accurate house plans, representing specific episodes in the long use-life of many of these structures, are rare. The number of negative features within House 2 (Fig. 4.12, section 4.2.1), for example, must represent somewhat of a palimpsest, since it would have been difficult to move around the structure, if all had been in use contemporaneously. Furthermore, the identification of features variously as pits, postholes or stakeholes, does not automatically assign a function to them and at Broxmouth, though some pits are flag- and clay-lined, this offers no further clue to their use, other than the intention that they should be water-tight or water-resistant.

Distribution of features

Though it has been difficult to assign specific functions to features in the Phase 6 roundhouses at Broxmouth, they can give some clue as to the organisation of space within the structures.

Some of the first publications on the Broxmouth roundhouses (e.g. Hill 1982b, 27; Fig. 2.7, section 2.3) highlighted the specific and recurrent distribution of pits, mainly to the rear and left of the structures (looking in from the entrance; Fig. 5.26). Since this distribution held true for structures with different entrance orientations (influenced by an apparent desire for each structure, with the exception of Houses 4 and 5, to front onto the arterial roadway running through the settlement; section 4.11.2), it suggests a consistent or standardised spatial organisation or micro-cosmology *within* the roundhouses themselves, rather than one which was dictated by factors (cosmological or otherwise, e.g. solstitial events) acting independently, or in a world outside, of them; this is in contrast to the 'sunwise model' (Parker Pearson and Sharples 1999; Fig. 2.9, section 2.4), which relies upon a uniform, easterly entrance orientation. The consistent distribution of pits, irrespective of outward roundhouse morphology, formed a major part of Hill's (1982b, 27, 29) suggestion that these structures reflected a specific architectural tradition (in this case, 'Votadinian'), based not on fabric but on the use of space within the roundhouses; this represented one of the first hypotheses to break free from the constraints of typology by fabric or structural design (e.g. Feachem 1965, 107-120).

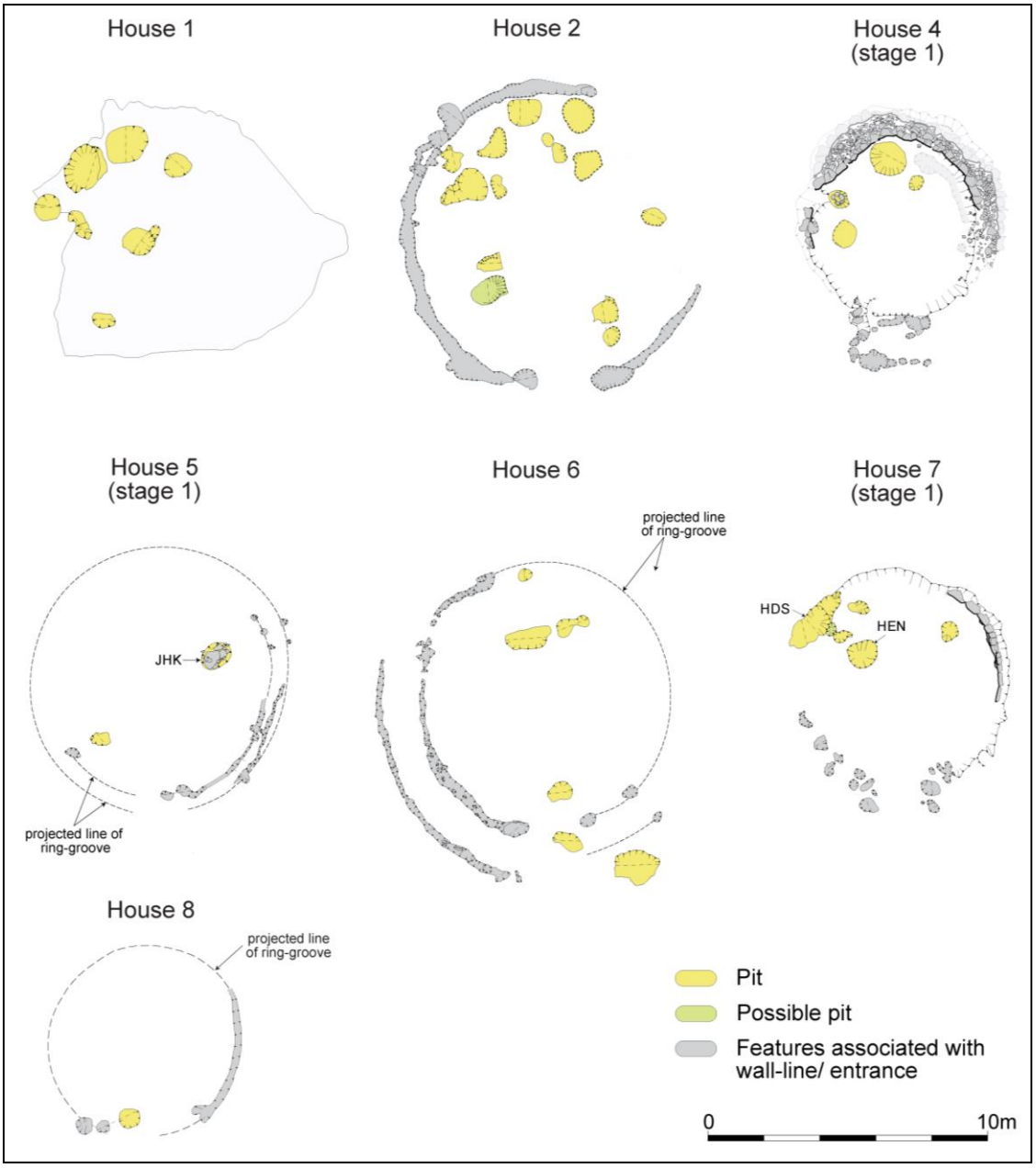


Fig. 5.26 Distribution of pits within the Phase 6 roundhouses at Broxmouth, with all entrances orientated south, for ease of comparison (image copyright The Broxmouth Project). Only pits, and features making up the wall-line and entrances of each roundhouse, have been shown; pit JDW (House 5), which is interpreted as the result of the digging out of an entrance post, is not shown.

The pits tend to be large, typically around 1.0m in diameter, and frequently include flagstone- or clay-linings. Whilst their specific functions are unknown, the fact that they appear to have been designed to be water-tight or water-resistant, may suggest similar types of activity taking place within them. It is

possible that they were designed to hold grain, or other agricultural produce, though no evidence of this was recorded during their excavation; carbonised grains of six-row barely were however recovered from clay-lined pits at Doubstead, Northumberland (Jobey 1982, 9). Meanwhile, the recovery of fire-cracked stones from pit HDS in House 7 could suggest their use as cooking pits, particularly given the lack of formal hearths in many of the Broxmouth roundhouses/ occupational stages; again, however, artefacts forming part of the infill material of these pits cannot be conclusively linked to their use. Other pits, such as JHK in House 5 and HEN in House 7 (Figs. 4.58, section 4.5.1; and 4.76, section 4.7.1), were infilled with clay at the end of their use-lives, and may suggest a different function, perhaps one associated with potting or daub-processing, though likewise it may simply represent the desire to create a firm foundation for later paved floor surfaces. What is clear, however, is that these features must have been covered in some way, so as not to pose a hazard to humans and animals living within, and moving around, the roundhouse.

The similar morphology of these pits with those outside the roundhouses (JHN, JHO, JAR, OAC, OAI; Figs. 4.103, 4.106 and 4.109, section 4.10.1), notably their size and the presence of (occasionally multiple) clay-linings, suggests similar functions, though the location of the latter group outside of the roundhouse may suggest some degree of differentiation. These external pits may, for example, have been associated with communal activities/ storage, or have served a function not desirable within the confines of the roundhouse itself (e.g. latrine pits, tanning pits).

Whatever the function of these features, many included distinctive artefacts within their infills, indicating a certain formality to their decommissioning (i.e. structured abandonment; section 5.4), and suggesting that they must have played significant roles in the life of the roundhouse/ settlement. In House 7, the location of pit HDS may even have influenced the structural composition of the roundhouse, since it appears to have served as a boundary between two different types of wall composition (section 4.7.1).

It is possible that the pits were dug specifically to receive foundation, or other votive, deposits, and may therefore only have been open for a short time (cf. Armit 1991, 146 for Sollas, North Uist). If integral to activities taking place within the roundhouse however, their sealing by paved floor surfaces in Houses 4, 5 and 7 (a phenomenon also seen at Kennel Hall Knowe and West Longlee, Northumberland; Jobey 1960, 13; 1978, 13) is likely to have signalled a significant change in use of these structures, else the accommodation of their function in other ways within or outside of the roundhouse. The absence of pits in House 3 is particularly notable, though an arc of substantial postholes in the north-west of the structure may have supported a mezzanine floor (section 4.3.1) and alternative storage facility. One interpretation for the wattle hurdling lining the walls of Houses 4 and 7 in their paved stages is for hanging equipment or foodstuffs (which may formerly have been stored in the pits), though it is equally possible that they served as a base for daub, limewash and decorative motifs (section 5.2). Alternatively, the sealing of pits within the roundhouses may have given rise to the morphologically-similar pit groups outside of the structures (section 4.10.1).

Inside the roundhouses, the location of the pits does not seem to have been forgotten in later, paved stages of occupation. Querns incorporated into the paved floors are placed over the pits (JIS, House 4; HDS and HEN, House 7; sections 4.4 and 4.7), possibly as part of their extended structured abandonment. As is suggested in section 5.2, it is possible that libations were poured through the central feeder-pipe of the rotary querns into the pit below, as an offering to previous generations, and/ or as a foundation deposit for the new structure. Whether or not this was the intention (the location of the querns may simply have represented the continued symbolic importance of this part of the roundhouse, throughout the various occupational stages), the location of the pits was nevertheless referenced. It is important to note, however, that the visibility of the querns may not have been permanent, since it is likely that paved surfaces were covered with some kind of organic flooring (such as earth, reeds or bracken); the lack of artefacts recovered from between paving slabs (as opposed to between the paved surfaces of different structural stages) suggests that, at the very least, they were packed with earth, to create a flatter and more comfortable surface on which to walk and sit.

The hearths in Houses 4 and 7 also appear to have been constructed over earlier pits (JIW and HEN respectively; Figs. 4.42 and 4.71). Again, this suggests a possible continuity in the use of space between structural stages, particularly if the earlier pits had been used for cooking, or that they indicate a continued focus of activity in particular areas of the roundhouse. It may also represent the deliberate referencing of these earlier features for more symbolic reasons; significantly in respect of the latter, functioning hearths, as opposed to

querns incorporated into paving, are unlikely to have been permanently covered by organic flooring and would therefore have been visible on a daily basis.

In Houses 3, the hearth is centrally placed and must therefore have been an integral part of spatial organisation within this structure. This is also perhaps the case for House 7, though in this instance the hearth is located just south-east (south-west in Fig. 5.27) of centre. Meanwhile, the House 4 hearth is much smaller and located in a very marginal space, south-east (south-west in Fig. 5.27) of centre; indeed, its size may have been constrained by the potential fire hazard to the eaves that any larger flame in this area would have created (see below).

The House 3 hearth seems always to have occupied a central position, particularly if the hollow beneath it (Fig. 4.28, section 4.3.1) represents an earlier hearth. In House 7 too, it is possible that the stage 3/ 4 hearth overlay an earlier (stage 2) hearth (Fig. 4.81, section 4.7.1), but both in this structure, and in House 4, these features also overlay earlier pits. Even the double-hearth in House 1, which is located east (north in Fig. 5.27) of centre, is located close to a House 1 pit (KDI) and over a pit-complex (KAX-KDF, not illustrated) associated with earlier Phase 6 activity in this area. Is it possible, then, that the extreme marginal location of the House 4 hearth, and to a lesser extent, the slightly off-centre positions of the House 7, and House 1, hearths, in fact, reflect a desire to reference earlier pit features, either because they served a similar function, or for other, symbolic reasons.

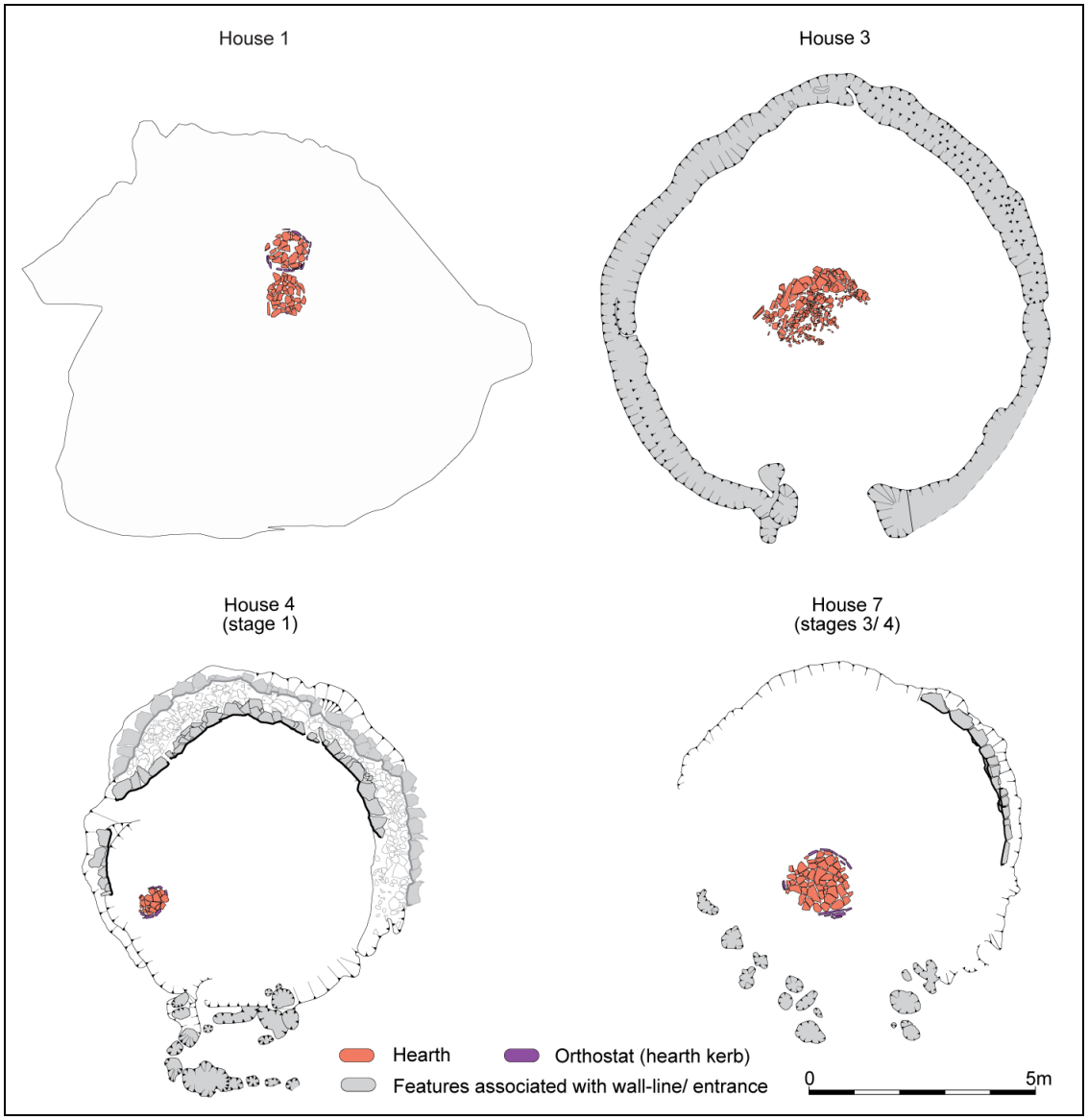


Fig. 5.27 Distribution of hearths in the Phase 6 roundhouses at Broxmouth, with entrances all orientated south, for ease of comparison (image copyright The Broxmouth Project). Only hearths, and features making up the wall-line and entrances of each roundhouse, have been shown. Only those roundhouse stages which include hearths have been shown.

The differential morphology and location of the hearths within the Phase 6 roundhouses suggests that they may have served different functions, and held differential importance in terms of the organisation of social space within these structures. The small, marginal hearth in House 4, for example, is unlikely to have fulfilled the same central role in the organisation of space within this structure as those in Houses 3 and 7 must have done. The slightly off-centre position of the hearths in both Houses 4 and 7 may, for example, suggest a desire to promote clockwise (or sunwise, Parker Pearson and Sharples 1999; Fig. 2.9, section 2.4) movement around these structures, since, if forming focal points, they would have prompted individuals to turn left once entering the roundhouse interior.

Not all roundhouses, or stages of roundhouses, at Broxmouth, display evidence for a hearth, however. Some of the floor surfaces have been plough truncated (e.g. House 6), thus potentially removing any evidence for such features, but in Houses 4 and 7, the sealing of early floor surfaces by later paving would presumably have protected such features from later damage. All of the hearths recorded at Broxmouth appear to have been swept clean at the end of their use-lives, and it is thus possible that these features were lifted for re-use, or deliberately dismantled, during the abandonment of earlier roundhouse stages, either for practical reasons related to levelling of the floor surface, or for more social concerns linked to retaining a tangible link with former occupants; even so, some trace, such as burning of the surrounding floor, may have been expected if this was the case. Where hearths are absent at other sites, and truncation cannot be used to explain their absence, their existence on upper

floors has been suggested (Armit 2005, 32; Fig. 2.4 (middle), section 2.2), but at Broxmouth, a lack of post-rings does not suggest the presence of upper floors, since there is no means by which to support them. It is possible that, in the unpaved roundhouses, or stages of roundhouses, heating, lighting and cooking was undertaken via a different method. A number of fire-cracked stones recovered from some of the larger pits (e.g. HDS in House 7) could suggest their use as cooking pits, but these would not provide heat and light. Lamps, or rushes dipped in animal fat (Reynolds 1979, 5), could have been used for the latter, though few lamps have been recorded from Iron Age sites, but the problem remains as to where the stones for use in these cooking pits were initially heated. The only other likely solution, if we assume that hearths were necessary for human habitation (e.g. Sharples 2010, 211, 233), is the use of a portable fire, perhaps carried within a brazier, and moved around, or between, structures when necessary. Though presumably made of iron and therefore an important display of wealth, the portable nature of such structures is unlikely to have played the same static, central role in the organisation of social space within the roundhouse as the large, fixed hearths of Houses 3 and 7 (stages 3 and 4) must have done.

Partitions

Whilst there is no convincing evidence for post-rings within the Phase 6 roundhouses, various slots and posthole/ stakehole alignments suggest the partitioning of the internal spaces (Fig. 5.28). The nature of this partitioning, and the spatial organisation which it produces, appears to differ between roundhouses, and could indicate functional differences between them, or simply the individuality of the households which inhabited them. Non-earth-fast partitions, of animal hide or textiles, which are not detectable archaeologically, may also have been employed, and would have allowed households to alter spatial organisation within the roundhouse on a frequent basis. In the Balathal houses of rural Rajasthan, different coloured plasters, which carry different social and symbolic meanings, are used to demarcate different zones of activity (e.g. particularly around the hearth), and sacred spaces, within the roundhouse (Boivin 2004b, 172). Furthermore, replastering certain areas in different colours can quickly alter the spatial organisation of the structure, or even the functional, and symbolic, nature of the roundhouse itself (*ibid*, 172-173). A similar phenomenon can be observed at the Neolithic tell-site of Çatalhöyük in Turkey, where burial platforms within the houses were covered with a whiter coloured plaster than other areas of the interior (Hodder and Cessford 2004, 22).

The most obvious partitioning of a Phase 6 roundhouse interior at Broxmouth is House 3, where both radial and annular division of space can be observed; indeed, annular and radial division of space appears to be extremely compatible and is not likely to have been as mutually exclusive as we tend to assume. The survival of the central hearth, which sits flush with the floor surface (and slightly

above it in those areas which witnessed significant use-wear), indicates that it has seen relatively little plough truncation. It is possible, therefore, that shallow partition slots existed in the other, more truncated, Phase 6 roundhouses (e.g. Houses 2, 5 (stage 1) and 6), and have simply been ploughed away.

The arc of substantial postholes around the north-west of House 3 (Fig. 5.28) appears to suggest an annular use of space in this part of the structure, perhaps with a mezzanine storage area above (Fig. 5.29), whilst non-earth-fast partition between these posts and the outer wall could have formed radial cells; a similar ‘gallery’ structure has been suggested at the rear of the Longbridge Deverill Cow Down roundhouse (Sharples 2010, 14). In the southern part of the interior, radial division is more strongly suggested by the L-shaped partition on the east wall, and the partitions flanking the entrance, which appear to form a series of cells, perhaps for storage of different foodstuffs or equipment. The morphology of the slots suggests that these partitions comprised earth-fast planks, or perhaps wattle hurdles. If these reached any substantial height (and were solid partitions with no openings), these spaces are likely to have been quite dark (unless lit by lamps) and, together with their small size, are unlikely to have been conducive to many daily activities. Again, these radial partitions may have supported an annular mezzanine floor, for storage or other activities.

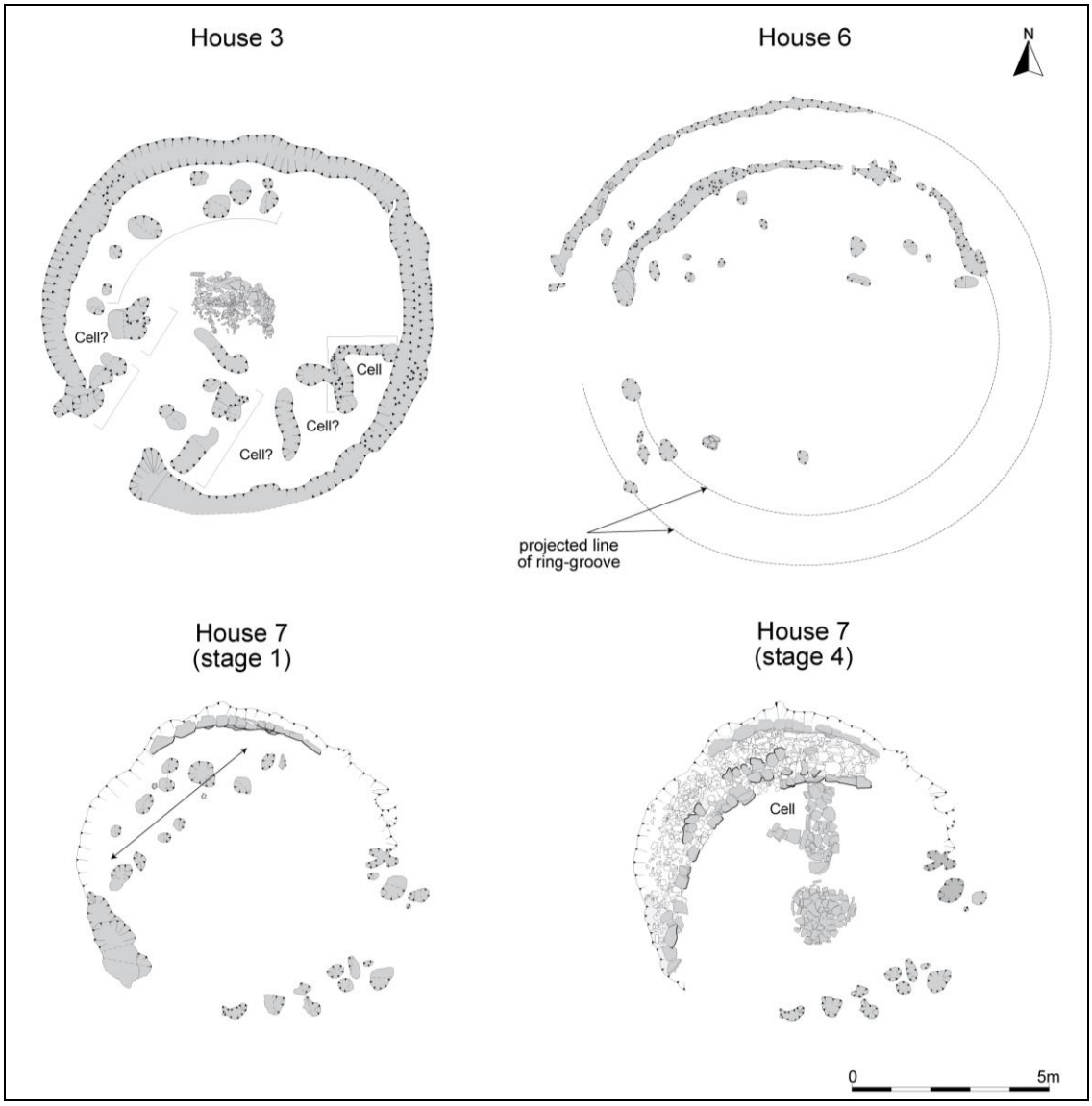


Fig. 5.28 Different forms of spatial organisation within the Phase 6 roundhouses at Broxmouth- House 3: annular and radial; House 6: annular; House 7 (stage 1): chordal; House 7 (stage 4): radial (image copyright The Broxmouth Project).

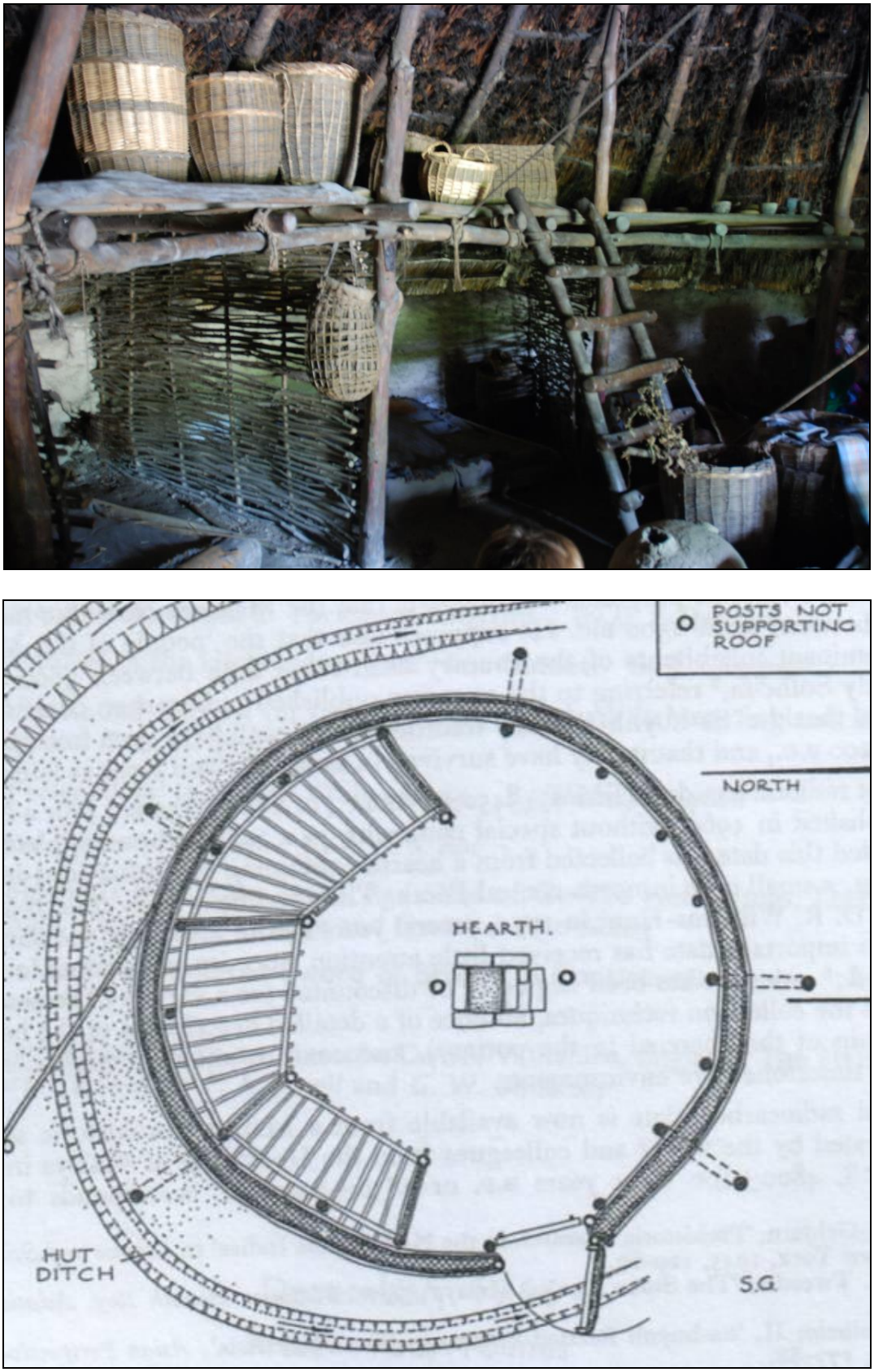


Fig. 5.29 Photograph and plan of raised storage and sleeping areas, respectively, in a reconstruction at Castell Henllys, Pembrokeshire, and in a ‘shepherd’s hut’ near Rome, Italy (photograph: author; plan: Close-Brooks and Gibson 1966, 351, Fig. 1)

A cell of similar size and shape to that in the east of House 3 was also observed in stage 4 of House 7 (Fig. 5.28), either as part of the original design of this stage or as a later addition. Not only did the construction of this wall create a radial cell at the rear of the structure, it would have blocked east-west access behind the hearth, and thus represents an important constraint not only on use of space, but also movement.

Meanwhile, the double ring-groove of House 6 also suggests annular use of space (Fig. 5.28). Measuring 1.4m (max.) wide, the annular space between the inner and outer ring-grooves would, unlike that of House 5 (stage 1), which measures only 0.3m (max.) wide, have allowed for circumambulation of the structure (Fig. 5.9), or for use as a storage area. This annular arrangement continues in the arcs of small posts inside the inner ring-groove, although since much of the interior of House 6 has been plough truncated, it is not clear if they formed any other types of spatial arrangement. The inner ring, together with these arcs of posts, may also, in much the same way as a post-ring, have supported a full, or partial, upper floor. Given the large size of House 6, its 2m wide entrance (sufficient to accommodate a small cart), and its proximity to the settlement entrance, this upper floor may have served as a communal hayloft.

Finally, lines of postholes at the rear of House 7 tentatively suggest chordal spatial arrangement within this structure (Fig. 5.28), though the intervening space measures only c. 0.70m wide and it is not clear how it may have functioned in the control of movement or the zonation of activities.

Orthostats

The incorporation of orthostats in the stage 1 and 4 walls in House 4 (Fig. 5.12, section 5.2.2) apparently served to focus attention on the area of the roundhouse opposite the entrance. This part of the roundhouse interior may have served a particular function, or had a heightened symbolic association, or simply have formed the axis around which the organisation of physical and social place was orientated. Parker Pearson and Sharples (1999, 18) suggest that the horseshoe-shaped hearths found in many Atlantic wheelhouses, with their open ends facing towards the entrance, may have dictated the spatial organisation of people sitting around them, perhaps on the basis of age, gender of kinship (Fig. 5.30); perhaps the orthostats in House 4 functioned in a similar way, marking the position where the head of the household sat. Certainly, an individual sitting in this commanding position could keep watch over both the entrance and the roundhouse interior, whilst serving as a focus of attention for people sitting around the walls and/ or hearth. It is notable in this regard that the large pits and associated structured deposits (e.g. querns) also cluster towards the rear of the roundhouse. The inclusion of orthostats or naturally outcropping 'backstones' into the rear walls of the roundhouses at Leskernick on Bodmin Moor (Fig. 5.17; section 5.2.3), whilst interpreted by the excavators as representing a desire to turn the roundhouse into a microcosm of the surrounding landscape (Bender *et al* 1997, 171), may in turn have served the dual purpose of symbolically elevating this part of the structure, and subsequently making this point as the axis about which social organisation was orientated. As is so often apparent in prehistoric architecture, the sacred and profane appears to be closely intertwined and mutually reinforcing.

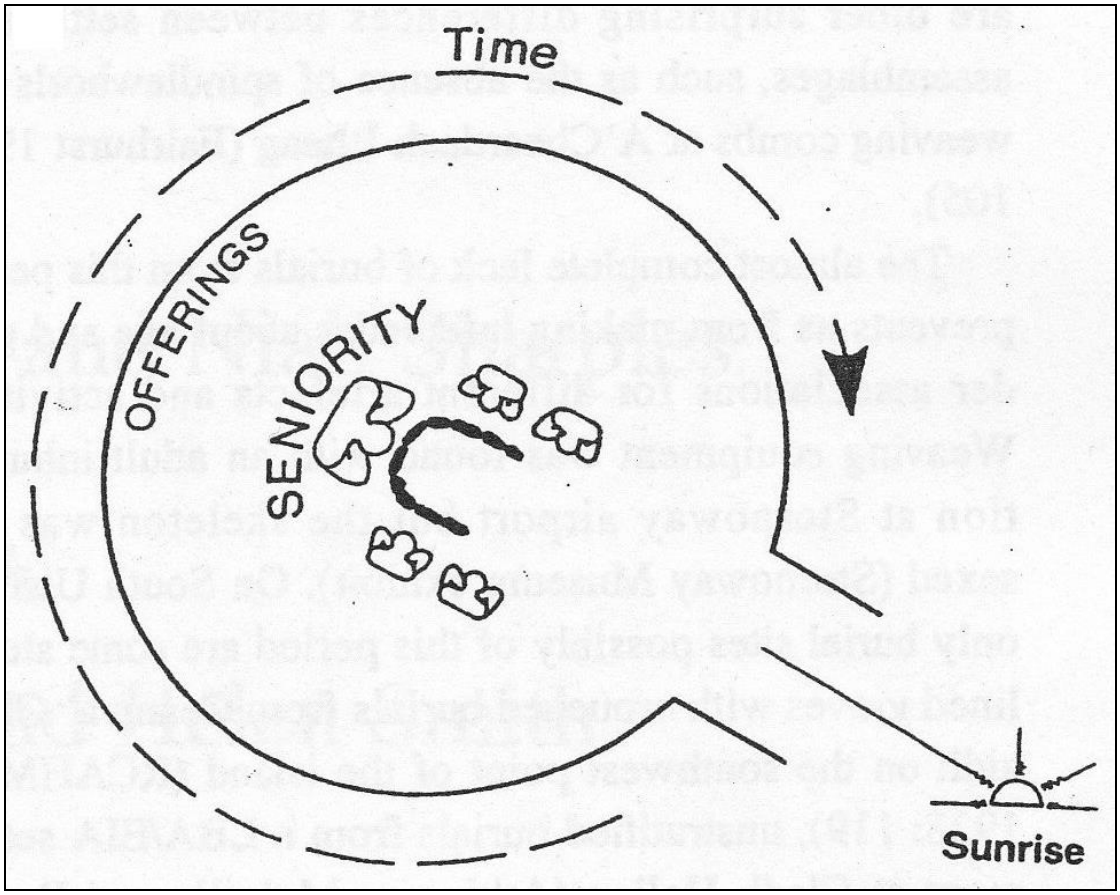


Fig. 5.30 Hypothetical social ordering of individuals around a wheelhouse hearth, with the most prominent position at the rear of the structure, facing the fire, entrance and midwinter sunrise (Parker Pearson and Sharples 1999, 22, Fig.1.10d). The position of the individual with the highest level of seniority mirrors that of the orthostats incorporated into the stage 1 and 4 walls of House 4 at Broxmouth.

Movement in and around structures

Some L-shaped porches have been interpreted as indicative of structures engaged in metalworking activities, since the exclusion of light aids the blacksmith in their assessment of fire temperature, using the colour of the flames as a proxy (G. McDonnell, pers. comm.). There is however no evidence for metalworking having taken place in House 4, and the elaborate timber porch structure must therefore have been designed to control the movement people, and animals, in and out of the structure; the restriction of light, which must

surely have been a side effect of this, would also have served to accentuate the transition from outside to inside. Ritual and domestic spheres appear to have been closely intertwined in Iron Age life, and indeed, there is little to suggest that House 4 served a more specific sacred role in the life of the settlement; certainly, however, control of access appears to have been particularly important in this structure, perhaps suggesting that certain buildings or activities were more socially restricted than others.

The entrance arrangements, and other interior furniture, of several of the other Phase 6 roundhouses at Broxmouth also appear to have controlled movement. In House 2, partitions flanking the entrance and blocking access to the rear of the roundhouse appear to direct movement in an anti-clockwise, or anti-sunwise, fashion around the structure, possibly out onto the cobbled surface to the north (Fig. 5.31); a remarkably similar plan can be seen in House 3 at Blackpatch, Sussex (Sharples 2010, 211, Fig. 4.8). Meanwhile, partitions in Houses 3 and 7 appear to direct movement clockwise, or sunwise, around the interior (Fig. 5.31), a phenomenon which is also seen in structure CS56 at Danebury (*ibid*, 218). These assumed routes depend, however, on the contemporaneity of structural settings, and other features (such as pit DBK in House 2 and HEN in House 7) being covered or infilled, so as not to impede access. The L-shaped porch in House 4, accessed from the north (section 4.4.1), and its later inward-opening door, on the north side of the door frame (section 4.4.4), may also have encouraged clockwise/ sunwise movement around the structure (the timber porch having already established the direction of travel and the open stage 4 door serving as a temporary partition to the north

(right hand side, looking in) of the entrance; Fig. 5.31); it is possible, however, that the line of postholes on the left of the door actually reversed the direction of movement once inside the structure (Fig. 5.31)- perhaps aiding to emphasise the transition from outside to inside space.

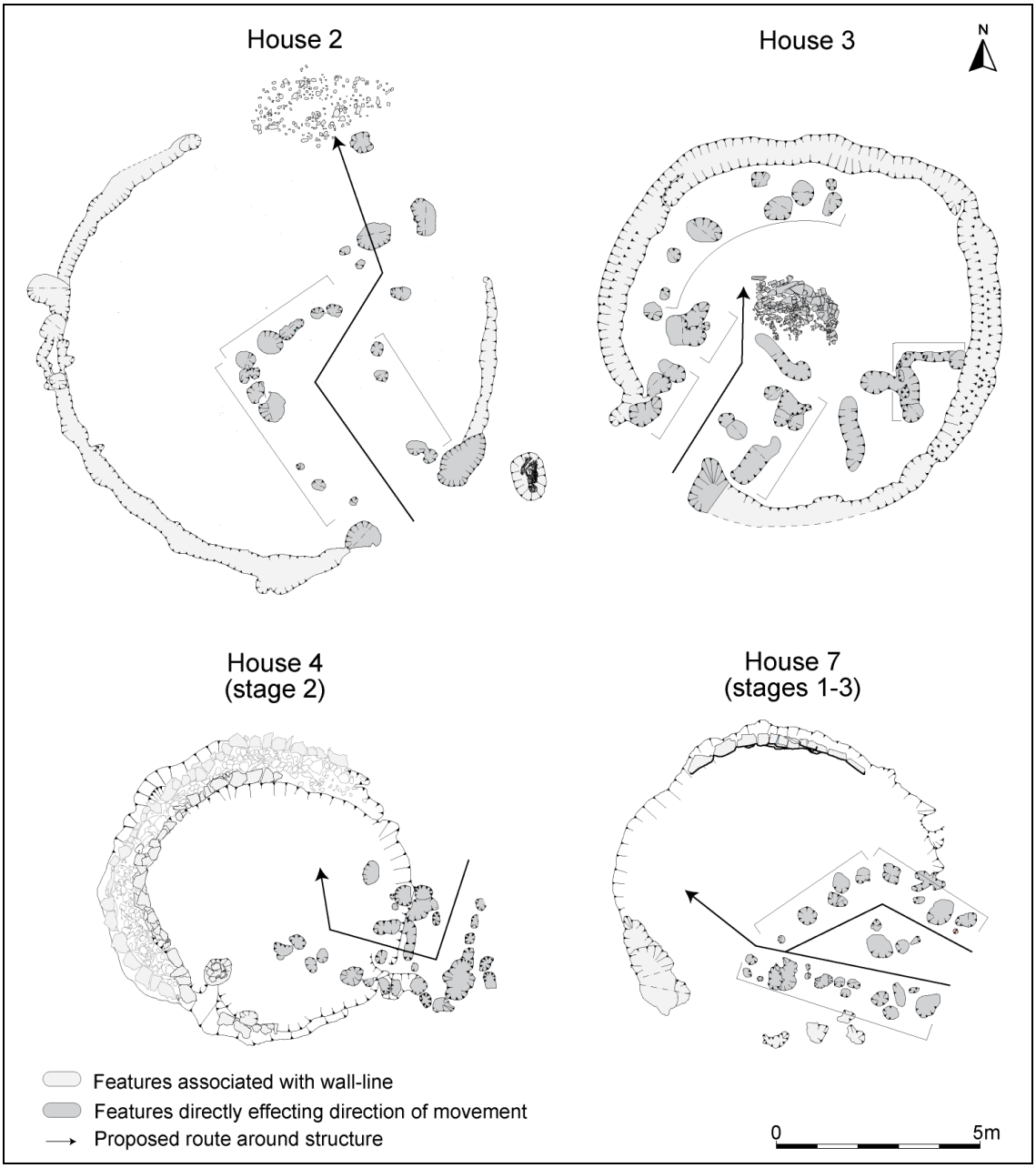


Fig. 5.31 Proposed routes of movement around Houses 2, 3, 4 (stage 2) and 7 (stages 1-3), assuming that the features presented are contemporary (image: author). Grave 1 has been included in the plan of House 2 for comparison with the 'sunwise model' (Fig. 2.9, section 2.4), though in this instance the assumed direction of movement is 'anti-sunwise'.

Artefacts

As suggested previously, the artefacts recovered from the Phase 6 roundhouses at Broxmouth most likely represent structured deposits or those incorporated into middens later used as foundation layers for paved surfaces, or for the infilling of features and house-stances, rather than *in situ* evidence of activities taking place within these structures. This is reflected by artefact distribution plots (Fig. B.1; Appendix B) which produce few meaningful patterns, apart from those reflecting the relative importance or suitability of features for certain structured deposits. Clusters of querns towards the rear of structures can, for example, be accounted for by their inclusion in walls (a convenient building material if not also a foundation deposit) and their continued referencing of this area of the interior, in part influenced by the distribution of the large pits of former occupational stages.

5.3.2 ***Maintenance***

'...with time, all things proceed from bright to dull, necessitating renewal, repainting, re-enactment and, ultimately, reaffirmation of culture and experience, as well as expression in ever-changing new ways' (Taçon 2004, 38).

The estimated life-span of roundhouses is a debated topic, with interpretations ranging from 15-25 years (Drewett 1982, 343), 20-40 years (Brück 1999, 149) and one generation (D. M. Reynolds 1982, 46), to considerably more than all of these figures, albeit with periodic maintenance (Reynolds 1995, 24). Experimental data suggests that structural timbers of 20-25cm diameter have a life-span of not more than 50 years, whilst data from the Forest Products Research Laboratory suggests that oak heartwood posts have a life-span of 15 years for every c. 50mm diameter (D. M. Reynolds *ibid*). Several techniques, such as charring the base of weight-bearing posts, the sealing of posthole bases with clay to make them water-resistant (as with some of the wall posts in House 7; section 4.7.1), and the use of sill-beams and post-pads, are, however, likely to have been employed to minimise degradation. Dismantling of the Pimperne house at Butser Ancient Farm after 14 years revealed that the main structural timbers were perfectly viable for re-use elsewhere (Harding *et al* 1993). Furthermore, smoke from internal hearths, and in the case of Broxmouth, the salty sea-air, would have helped to preserve the roof thatch; the advantages of the latter have been observed in traditional seaweed-thatched roofs on the island of Læsø in Denmark (Miles 2008). In addition to this, frequent maintenance, such as the replacement of sections of the House 3 wall-line,

would have considerably extended the use-life of a single structure, as is testified by the many medieval timber-framed buildings which have survived, for up to half a millennium, to the present day.

Roundhouse maintenance, abandonment and replacement are however, unlikely to have been solely dependent on structural integrity, and would have been heavily influenced by the social structure of communities, and the role which architecture played within them (cf. Brück 1999; Sharples 2010, 201, 236; cf. Whittle 2003, 140-1). If roundhouses, with sufficient maintenance, could survive for several centuries, then their replacement or substantial modification (as at Broxmouth) on a more frequent basis must be the result of changing social circumstances and the reproduction and renegotiation of social relationships. Certainly, the lavish use of timber in the L-shaped porch of House 4, or the largest Phase 6 structure (House 6), and the retention of defunct stone fabric in Houses 4 and 7, suggests that more than structural necessity was involved. In this case, each act of maintenance might be considered as the re-birth of the structure, and so individual buildings may be re-born on several, if not many, occasions throughout their use-lives.

Ethnographic evidence supports this argument, and provides insights into the ways in which these processes may have been perceived by the Broxmouth community. The dulling and darkening of rock carvings through weathering is considered, by both the San peoples of South Africa and Aboriginal communities in Australia, to represent the reclaiming of the images by the spirit world, and their frequent renewal or maintenance is thus required to maintain

contact between the two worlds (Ouzman 2001; Taçon 2004, 39). The maintenance, re-plastering, or re-decoration of roundhouses may have been considered in a similar way by Iron Age communities. At Çatalhöyük, micromorphology has identified up to 700 re-plastering episodes on one wall over a period of 70 years, that is, roughly once a month (Matthews 2004; Hodder and Cressman 2004, 22). A similar frequency of re-plastering occurs in the Balathal houses of rural Rajasthan, particularly when visitors are expected, and always as an act of purification after the birth or death of an individual within the house (Boivin 2004b, 172). These re-plastering events clearly do not reflect functional necessity and instead represent important aspects of household life and significant events associated with social reproduction. Perhaps then, the large quantities of crushed shell recorded at Broxmouth, which must, in part, have been used for the production of limewash, is not surprising.

Similarly, the dulling of the rock with which the stone-walled roundhouses at Broxmouth were constructed may have been one of the reasons behind the re-walling of the structures with new ‘skins’ of stone. Indeed, in Madagascar, biological and social ageing is likened to ‘hardening’ (Bloch 1995a, 215; 1995b). A similar reasoning may lie behind the process by which timber-walled House 5 (stage 1), or the timber interiors of Houses 4 and 7 (stages 1-2), were slowly replaced, and encased, by increasing amounts of stone, as the households or lineage which inhabited them became more established. Like the transformation of Stonehenge from a timber to a stone circle, or the complementary nature of the latter with the timber circle, 5km distant, at Durrington Walls (Parker

Pearson 2004, 73, 75; Parker Pearson and Ramilisonina 1998), perhaps the stone and timber roundhouses at Broxmouth, in their various stages of occupation, represented different social groups or different aspects of the collective identity of the community.

Moreover, the retention or re-use of previous fabric, the old 'skin' of a structure, would have served as a mnemonic device through which its history, and that of its inhabitants, could be traced and read. At No. 9 Locheport, North Uist, for example, 60cm of heather and bracken thatch had built-up over the life of the building (1910-1970), at a rate of roughly one centimetre per year (Holden 1998, 20, 46), no doubt creating a structure with a visible longevity and ancestry, like 'Annie Shaw's castle' in Nairn, Morayshire (Fig. 5.32).

Fig. 5.32 'Annie Shaw's castle' in Nairn, Moray (Holden 1998, 13). This building has been repaired many times (with broom having been used to fix the roof). The *ad hoc* nature of this repair, and the retention of earlier structural fabric, giving the building a visible ancestry. Certainly, the name 'Annie Shaw's castle' suggests that it was a recognised, and important, local landmark.

5.4 **Death**

'Abandoned by its people, the maloca [Tukanoan longhouse] dies along with its owner. Roof and walls rot away leaving the heavy hardwood columns, standing like bleached bones on a site full of memories, the histories of its residences' (Hugh-Jones 1995, 247).

At the end of their long and complex use-lives, each roundhouse is ultimately abandoned. Since careful maintenance is likely to have been able to sustain a structure almost indefinitely (section 5.3), albeit with replacement of defective structural elements, the abandonment of structures may often have taken place for social rather than structural reasons. At Broxmouth, as with many Iron Age sites, there is abundant evidence that the closure/ abandonment of roundhouses, and their composite features, was socially significant, and was undertaken in a controlled, or 'structured', way; evidence for this is usually observed by the presence of structured 'abandonment deposits', which complement the 'foundation deposits' laid during their construction, or 'birth' (section 5.2.2).

5.4.1 ***Abandonment deposits***

Pits

Artefacts recovered from roundhouses tell us little about the activities which took place within them, and more about the relative importance attached to particular features. Pits appear to have been a particular focus for structured abandonment deposits, presumably because they represented some of the most functionally and symbolically important features in the roundhouse;

particularly so if their relatively deep profiles encouraged the perception that they were somehow closer to the subterranean ‘otherworld’. The ‘hoard’ associated with pit KEM in House 1 contains Roman material rarely recorded elsewhere at Broxmouth (Fig. 4.10, Table 4.2, section 4.1.2), and certainly appears to represent a collection of artefacts not deposited in association with any other type of feature.

Many of the artefacts deposited during the infilling of these features appear to have been broken (often deliberately; see querns in House 4 paving, Table 4.10, section 4.4.7) or burnt (e.g. the quern fragment (SF943) deposited in pit DDX in House 2; Table 4.6, section 4.2.5). Both processes may have been seen as purifying or neutralising, thus aiding transformation of the artefact from the domestic to the ritual/ symbolic sphere.

Substantial quantities of shell are also recorded in pits, wall cores and terminal infill deposits (Chapter 4, various), and may likewise have served a symbolic role. Large quantities of shell were, for example, also found in pits at Stonehenge and Durrington Walls, which Parker Pearson (2004, 79) suggests may have been deposited because they invoked the bones and cremated ashes of the dead.

As highlighted in relation to ‘foundation deposits’ (section 5.2.2), re-use of house-stances at Broxmouth, with little evidence for any substantial hiatus in occupation, suggests that artefacts associated with the abandonment (death) of one structural phase could also have signalled the foundation (birth) of the next,

and, as such, they may be better understood as *transitional* deposits. Closure of the large stage 2 pits in House 4 may, for example, have accompanied the laying of the stage 3 paving; retention of the stage 2 wall in stage 3 may have created a smoother transition than between other stages in the use-life of this house-stance. As has also previously been discussed, the apparent deposition of different parts of the same artefact (e.g. V120) or the same set of artefacts (e.g. gaming pieces SF274, SF272 and SF273; Fig. 5.13, section 5.2), in different structural stages, suggests the curation of certain items prior to deposition, perhaps in order to create tangible links between various structures and generations of inhabitants. The laying out of hearths and the deposition of querns over earlier pits, may have played a similar role (sections 4.4 and 4.7). Not only would they have referenced the location of these features to the inhabitants of the new structure, and thus possibly created continuity in the spatial organisation of the roundhouse, but it is possible that, if libations were poured through the feeder-pipes of the querns into the pits below, they served as an axis between the past and the present, between the living community and their ancestors. Thus, these *transitional* deposits and features may have had the dual function of remembering and forgetting, and of renegotiating the relationship between past, present and future.

Walls

Another example of the renegotiation of social identity may be demonstrated by the flat slab placed in front of the orthostat in the stage 4 wall of House 4 during the construction of stage 5 (Fig. 5.12, section 5.3). The slab is almost identical to that incorporated into the stage 1 wall (JDL) of this structure, and may have

been specifically chosen for this aesthetic quality, in order to symbolically bracket all previous stages of occupation into a combined and amalgamated past. Secondly, the location of this slab in front of the orthostat in the stage 4 wall must have been a deliberate choice, either because of the importance attached to this location, opposite the roundhouse entrance, or because any spatial or social organisation of the roundhouse in which it played an integral role (section 5.3) had now become redundant. The latter suggests a change in the social organisation of the House 4 interior, or, given its small and irregular shape in stage 5, a more fundamental change in function (e.g. that it no longer housed human occupants).

5.4.2 ***Structured decommissioning***

Several pits at Broxmouth may have been associated with the structured decommissioning of the roundhouses. Pit JDW, in House 5, may certainly relate to the digging out of the stage 1 entrance post (perhaps for use in the stage 2 structure, or elsewhere), and this may have been as much symbolic as practical (though clearly the roundhouse continued in use in a different, scooped and stone-walled, form); in this instance, the re-use of a stage 1 entrance post in the stage 2 structure may, as appears to have been the case for the wall fabric of Houses 4 and 7, have served as a tangible link between the two structures.

Whilst the same stratigraphic evidence is not observed in relation to the other Phase 6 roundhouses, the artefact-rich nature of some of the pits suggests that they may also have been associated with the structured abandonment of these buildings. Certainly, the large pits in the vicinity of the House 6 entrance (JCH,

JCR, JCW) contained a rich assemblage of artefacts (Table 4.15), including 4 out of the 7 definitively prehistoric copper alloy artefacts from the Phase 6 settlement, a decorated limpet-scarred quern (SF955; Fig. 5.8, section 5.1) and the only example of La Tène-style art recorded from Broxmouth (Fig. 5.33; Armit and McKenzie in press, 2013a). Similarly, the 'hoard' from pit KEM, in the vicinity of House 1, represents nearly all of the Roman exotica recovered from the site, though comparison of the date from the pit (cal. AD 1-130; SUERC-36083) with that from the hearth (KAT) in House 1 (cal. AD130-340; SUERC-36079) could suggest that these items were more associated with the structures' foundation, than its abandonment. Indeed, since none of these pits are clay- or flag-lined (JCG being the exception), it is possible that they were dug specifically for the deposition of these items, either during the foundation or abandonment of the roundhouses. Perhaps some of these artefacts represented the material possessions of the individuals who inhabited these structures, or, given the large size of House 6, and the array of artefacts represented within these pits, those of the wider community.

Fig. 5.33 Copper alloy needle (SF516, top) and horse harness strap junction (SF518, bottom) (not to scale), both recovered from the infill of pit JCW (photographs: The Broxmouth Project).

Recognition of this, apparently structured, process of decommissioning, has allowed for the phenomenon to be recognised, more explicitly, elsewhere. At Burradon in Northumberland, for example, large pits containing dense concentrations of Roman pottery and fire-cracked stones, loom weights and fragments of tuyere, were cut through the ditch terminals surrounding the large central roundhouse (Jobey 1970b, 70-71). Although the original excavator interpreted these artefacts as the products of later land clearance, based on the presence of two, presumably intrusive, medieval pottery sherds (*ibid*), their dense concentrations and correspondence with the roundhouse terminals makes this highly unlikely.

Infilling

There is abundant evidence, from Britain and elsewhere, for the burning down of prehistoric houses at the end of their use-lives (Jones 2008b, 163; Bradley 2005, 204; e.g. Webley 2007). Not only would this have destroyed the structures and rendered them unusable by future generations, thus confining them to the memory of the past, the conversion of organic (timber) to inorganic (ash) may have mimicked the transformation of flesh, through decay, to bone, and thus the natural transition from life to death (Boivin 2004a, 7; Owoc 2004, 113; Parker Pearson 2004, 80, 86).

At Broxmouth however, no roundhouses appear to have been burnt at the end of their use-lives. The conflagration which is suggested by the burnt slabs in stage 3 of House 7 seems not to have put an end to this structure, since it saw a further stage of modification and occupation (stage 4; section 4.7.4); the

construction of a new wall may however have signalled its ‘re-birth’ from the ashes. The roundhouses at Broxmouth, or at least the scooped house-stances, where evidence has survived the plough, appear, instead, to have been infilled with rubble and midden at the end of their lives. It is possible that at least some of the rubble represents natural structural collapse, and some of the midden may represent the *ad hoc* dumping of material, rather than the immediate and deliberate infilling of structures, but however short or protracted this process, the end result would have been the same.

Since the Phase 6 roundhouses at Broxmouth represent the last prehistoric activity on the site, the infilling of the house-stances cannot be seen as a purely pragmatic act to level the site for future occupation. Rather, it is likely that, as with many other aspects of roundhouse inhabitation, the decommissioning of these structures at the end of their use-lives was socially and symbolically significant, and required a controlled and structured process.

Indeed, the ‘burial’ of roundhouses appears to be another common way in which roundhouses were put out of use (e.g. Jones 2008b, 163, 164; Sharples 2010, 222). This process parallels the transformation of open-air timber or stone circles into mounded barrows (Jones 2008b, 162-166), and may therefore represent the symbolic transformation of sites which were previously accessible to the living into closed sites reserved only for the dead (*ibid*, 163). It is possible that the infilling of the house-stances at Broxmouth (Fig. 5.34) served a similar purpose, transferring them from the world of the living community to an

agglomerated past, particularly if their final form resembled the burial monuments of a previous age.

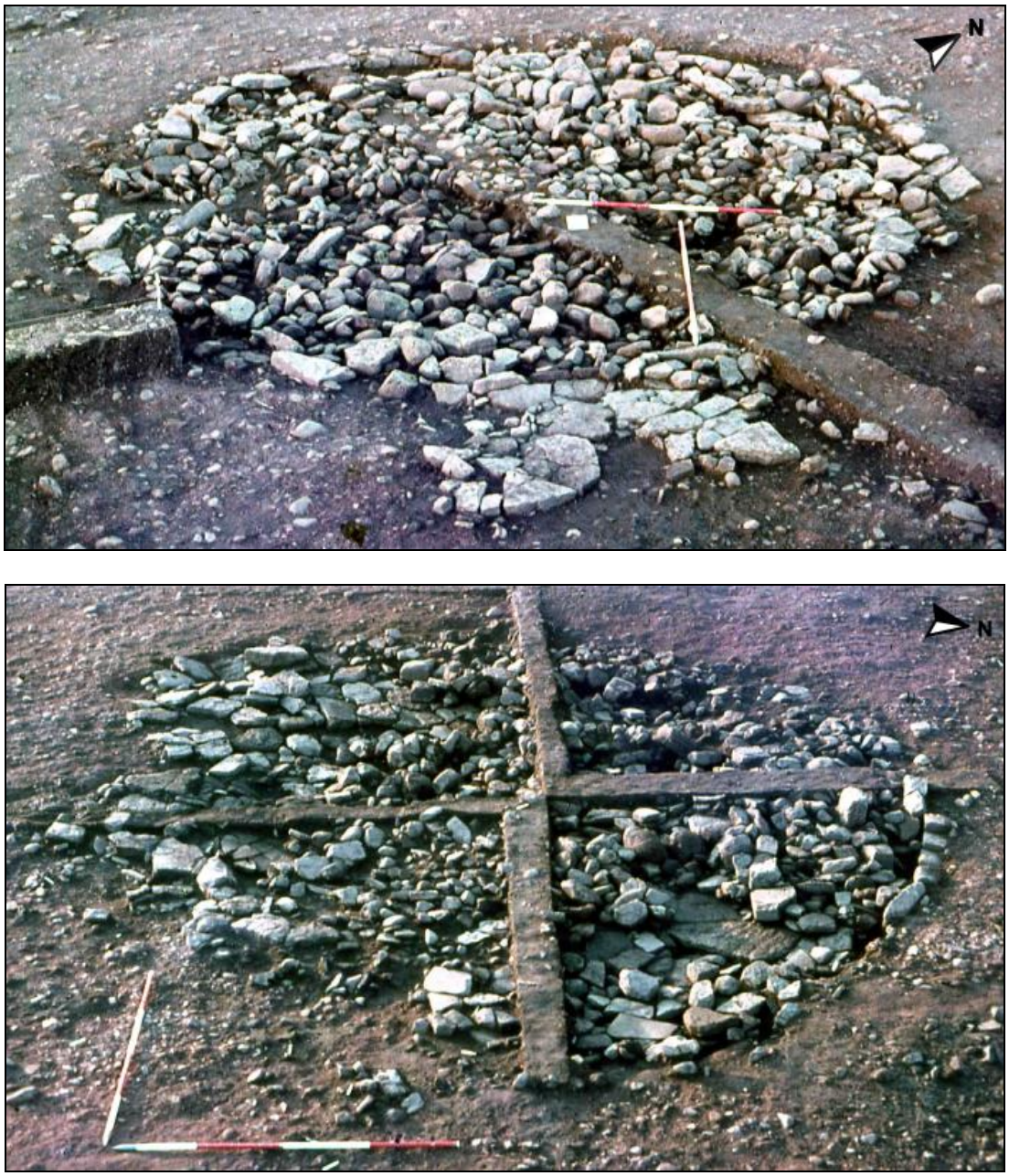


Fig. 5.34 Stone-filled house-stances of Houses 4 (top) and 7 (bottom; photographs: Broxmouth archive)

If some or all of the stone represents structural collapse, the mixing of fabric from different structural stages during infilling may have symbolically united them, and their various generations of inhabitants, into the broader genealogical

ancestry of the living community. The AMS dates obtained for the terminal infill deposits of House 4 (350-50 cal. BC and 400-210 cal. BC; SUERC-33364 and SUERC-33368) and the material used in both the construction and infilling of House 1 (350-40 cal. BC and 370-120 cal. BC; SUERC-36080 and SUERC-36081) pre-date those obtained for features associated with the occupation of these structures by a considerable period. Similarly, the infill of pit KEM in House 1, which is associated with the 'hoard' of Roman material culture, appears to have comprised a mixed fill of both old (400-210 cal. BC, SUERC-36082) and contemporaneous (cal. AD 1-130, SUERC-36083) material. This early material pre-dates even the earliest Phase 6 activity and must therefore have been obtained from older middens on site. Whether or not this was a conscious act, it begs the question as to why such material was left on site and not distributed over the surrounding fields, both for its fertilising properties and to rid the settlement from unpleasant and space-consuming waste. Perhaps the Phase 6 inhabitants were using the infill of the defunct Phase 3 ditches to obtain such a large quantity of material, in which case, they would have dug down through the material remains of past inhabitants. Use of this material in the infilling of house-stances may therefore have represented another way in which past and presented were united in a deep, collective past. The addition of contemporary midden material, generated by the Phase 6 inhabitants themselves (as in pit KEM, see above), may have further strengthened the unity of individual households with this collective past. Certainly, evidence of ash and occupation debris has been found at several Bronze Age barrows in Wessex, and has been interpreted as material brought by individual mourners for incorporation into this communal monument (Grinsell 1941, 105). At Skara

Brae, the subterranean nature of the structures was not the product of digging down into the earth, but rather of midden material having been dumped around them, possibly upon abandonment (Card 2010, 17). Another possibility is that some of this midden may have been created by feasting events (Bradley 2005, 206) accompanying the structured abandonment of the roundhouses. At Broxmouth, large quantities of articulated animal bone in the ditch terminals of the Phase 3 settlement suggests that feasting accompanied their infilling (Armit and McKenzie in press, 2013b), though this material is apparently absent from the infill of the Phase 6 house-stances themselves.

This process of infilling may have been as much about forgetting as remembering, but the social message is likely to have been context- and structure- specific (Jones 2008, 163). Indeed, several unusual items, including an unabraded sherd of Antonine samian ware (SF142) and a fragment of human radius (fragment 1, with a peri-mortem fracture; Fig. 5.35), were recovered from the terminal infill of House 7 (Tables 4.17 and 4.18, section 4.7.6), and they may have been deliberately incorporated as more specific structured deposits. Similarly unusual artefacts have been recovered from the terminal infill of roundhouses elsewhere in Scotland; at Clarkly Hill, Morayshire, for example, an iron sickle, steatite lamp and iron dagger were recovered from the terminal floor deposits of a ring-ditch house, prompting the excavator to suggest that it had been ‘turned from a house to a ritual site’ (Hunter 2012, 10). Indeed, just as barrow mounds feature secondary burials, some of significantly later date than the primary interment, so too may the infilled Broxmouth roundhouses have been returned to for the deposition of particular items which

reinforced the connection between certain individuals and their ancestors. The most overt example of this at Broxmouth is, of course, the early medieval interment (Grave 4; cal. AD 400-540, SUERC-21989; Hamilton *et al* in press, 2013) buried in the settlement interior roughly two centuries after abandonment of the Phase 6 settlement, but the same interpretation could also be forwarded for the Antonine samian ware (SF142; Fig. 5.35) in the infill of House 7 and the copper alloy zigzag bracelet (SF521; Fig. 5.36) of late 3rd or 4th century date, apparently recovered from the terminal infill of House 2.

Fig. 5.35 Samian sherd (SF142, not to scale) and human radial fragment (1) recovered from the terminal infill of House 7 (photograph: The Broxmouth Project).

Fig. 5.36 Copper alloy zigzag bracelet (SF521, not to scale) of possible late 3rd or 4th century date, from the terminal infill deposit of House 2 (photograph: The Broxmouth Project).

Chapter 6: Conclusions

'Ritual and domestic life went together throughout the prehistoric sequence and it is wrong and- more than that- it is impossible to separate them now' (Bradley 2005, 210).

This research has focused upon the eight surviving roundhouses which comprised the Late Pre-Roman and Roman Iron Age settlement (Phase 6) at Broxmouth. Using a biographical and materiality approach, it has highlighted the multitude of ways in which roundhouse architecture could be employed to convey a variety of social messages, and how, in turn, people may have used their homes to create, renegotiate and manipulate social relationships.

6.1 **Roundhouse fabric**

One of the main outcomes of the research was to confirm, through stratigraphical analysis and AMS dating, that the Phase 6 roundhouses at Broxmouth were broadly contemporary with one another, and in use from *100 cal. BC- cal. AD 155* (modelled at 68% probability; Hamilton *et al* in press, 2013). Since the roundhouses display a variety of fabrics and construction methods, their contemporaneity undermines previous models which attempt to categorise and date roundhouses on the basis of fabric and morphology.

AMS dates from the earliest stages of the stone-walled Houses confirmed that they pre-dated the Roman conquest of south-east Scotland (i.e. pre-AD 79/ 80) and were not, as traditionally thought, a product of Roman influence. Though not unequivocal, AMS date ranges for the paved floors also suggested a pre-

conquest date for their construction, particularly since several dates serve as *termini ante quem* for earlier paved surfaces.

The origins of Iron Age stone-walled architecture therefore appears to lie in indigenous society, with the diversity of roundhouse forms emerging from local traditions.

6.2 **Internal organisation**

The Phase 6 roundhouses displayed a great variety in the organisation of interior space (annular, radial and possibly also chordal), with no two structures exhibiting exactly the same spatial arrangement; non-earth-fast screens, and other, non-visible phenomena (such as the application of coloured plasters), are likely to have created even greater complexity and fluidity in the use of space.

No unambiguous post-rings were apparent in the Phase 6 roundhouses, suggesting that most structures comprised only single-storeys; arcs of postholes (e.g. House 3), internal entrance structures, or double-walls (e.g. House 6), may, however, have supported mezzanine floors or storage lofts.

Hearths were not identified in all of the roundhouses, suggesting either that such features were non-earth-fast and portable, and/ or that not all structures were used solely for human habitation. Furthermore, the variable morphology of the extant hearths suggests that they served different functions and/ or played greater or lesser roles in the organisation of space within the roundhouses.

6.3 **Functional relationships**

The surviving Phase 6 roundhouses at Broxmouth (with the exception of Houses 4 and 5) were laid out along, and orientated towards, an arterial roadway running through the South-west Entrance, thus suggesting a planned settlement. The variable morphology of the structures suggests that they do not represent identical, independent homesteads, but different structures performing different, but complementary, roles within the larger settlement. Proximity to the road, and the general absence of external porches or other complex entrance features, would have promoted access between the structures.

Houses 1 and 2 appear to have formed a ‘figure-of-eight’ structure. The different morphology and internal make-up of the two structures suggests that they performed complementary functions, House 2 perhaps even serving as a byre for House 1. Such ‘figure-of-eight’ buildings are uncommon in the Iron Age, and their identification at Broxmouth is therefore significant. Houses 4 and 5, which must also have been oversailed by a conjoined roof, may also have performed complementary functions since, though there is no direct access between them, their entrances open onto a communal yard. The relative structural development of each roundhouse suggests that the domestic functions of House 4 may have transferred to House 5 over time.

The variety of fabric, morphology and internal organisation of the Broxmouth roundhouses, and their apparent inter-related roles, must reflect a community with complex social organisation and interdependence.

6.4 **Roundhouse biographies**

Multiple re-use of the scooped house-stances, evidence for wall-line maintenance and repair, and AMS dating, confirm that the Phase 6 roundhouses, and their house-stances, enjoyed long use-lives. Some structures (e.g. Houses 2 and 3) were modified and maintained without wholesale replacement for considerable periods of time, suggesting that the total remodelling of structures on the same stance (e.g. Houses 4 and 7) may have been driven as much by social factors as practical ones.

This research has demonstrated that roundhouse replacement took place on a generational, or bi-generational, basis (roughly every 40-60 years). Ethnographic data suggests however that minor, archaeologically-invisible, modifications, such as re-plastering and re-thatching, are likely to have taken place more frequently, with their own social implications.

6.5 **Roundhouse materiality**

The replacement of roundhouses on the same house-stance, with the retention of the defunct fabric of previous structures, led to a successive decrease in roundhouse size, which must have impacted upon the way space was used and experienced; the final stage of House 4 occupied less than 40% of its original internal footprint. This again suggests social, rather than solely functional, factors were involved. It appears that, in remodelling the roundhouse and the identity of its household, it was necessary to retain tangible links to previous structures and their inhabitants. As such, each new structure (and its household) was cradled within the shell of its ancestor.

By its nature, stone is more durable than organic materials such as turf and timber, and is, ethnographically, often perceived as the embodiment of ancestors. It may be this very fact that led to the differential structural development of the stone- and timber-walled roundhouses, and their house-stances, at Broxmouth. For earlier structures to have held any social significance however, oral tradition must have played a central role in communicating and sustaining social identity over several generations.

Within the roundhouses themselves, the use of marine-sourced stone in conspicuous locations, such as wall-facings and paved floors, and the likely manufacture of limewash from marine shell, may have directly referenced the coastal identity of the community. Differential 'customisation' of the roundhouses, including non-archeologically visible surface decoration, may also have conveyed subtle nuances of household and communal identity.

6.6 **Structured deposits**

The Phase 6 roundhouses appear frequently to have been swept clean of daily refuse and thus recorded artefacts appear generally to have been deliberately deposited. A biographical approach to renanalysis of the roundhouses has demonstrated the importance of structured deposits within the life of structures and their households. Foundation and closure/ abandonment deposits appear to have been important, particularly those signalling the transition between the 'death' of one structure and the 'birth' of the next, when the roundhouse and household may have been in a liminal state. Curated deposits, and those

(particularly querns) deposited so as to reference the location of earlier features, appear to represent conscious attempts to maintain links with the past.

House-stances were generally infilled with rubble and midden at the end of their use-lives. The inclusion of old material, as indicated by AMS dates, as part of this infill may represent a conscious attempt to incorporate these ‘dead’ structures into a broader (possibly mythical) narrative of the settlement’s past.

Structured deposits (like roundhouse fabric), served as mneumonic devices which told (and re-told) the stories of individual and collective pasts, and as such would have been integral to the daily experiences and identities of the Phase 6 inhabitants.

Chapter 7: Future Research

The Broxmouth Project, and this research in particular, has illustrated the benefits of returning to old data with new questions, new theoretical approaches and new scientific techniques. A biographical and materiality approach to the reanalysis of the Late Iron Age roundhouses at Broxmouth, together with a comprehensive AMS dating programme, has moved beyond mere categorisation, towards an understanding of the more subtle ways in which these iconic structures reflected and impacted upon the identities of their inhabitants.

7.1 **A biographical approach**

The success of a biographical approach depends upon the nature, complexity and preservation of the archaeological record. On sites with favourable conditions, particularly those on alkaline geology where adequate faunal bone is preserved, a comprehensive AMS dating programme (ideally with the application of Bayesian modelling) could help to establish the rate of roundhouse replacement and modification, and assess whether the generational 'turnover' observed at Broxmouth represents a more widespread phenomenon. Where house-stances are not re-used, AMS dating of nearby structures may help to assess whether successive roundhouses were re-built on adjacent plots. Indeed, a biographical approach to settlements would encourage interpretation which looks beyond single roundhouses, and which considers the life of households and of multiple generations which make-up a settlement's community and its ancestors. The structuring of excavation reports, perhaps in a similar format to that used in this research (Chapter 5), would

enable this continuity of settlement, and community, to be communicated effectively, and could be presented at various scales from house-stance to settlement, and landscape.

7.2 **Roundhouse function**

The Phase 6 settlement appears to represent a complex arrangement of structures with complementary functions, though not always so overtly as the figure-of-eight structure (Houses 1 and 2) identified during reanalysis. Since artefacts recovered from roundhouses appear to represent deliberate, structured deposits, rather than the remains of *in situ* activity, micro-morphological and chemical analyses of house floors, where they survive, may be beneficial in detecting different functional signatures (e.g. byre, workshop, more conventional 'domestic' role). Again, the need to look beyond individual structures and undertake comparative analysis within a single settlement is paramount.

7.3 **A materiality approach**

Detailed research on the Late Iron Age roundhouses has shown how a materiality approach to roundhouse fabric can tease out nuances in the customisation of structures which may reflect household identity. The success, and validity, of a materiality approach relies on the detailed identification of resources (with a view to establishing their provenance), and the contexts from which they are recovered. For roundhouses, this analysis must move beyond the artefactual record to any extant structural fabric, including posthole-packing and floor surfaces. Again, such studies must look beyond individual

roundhouses to a comparative analysis of structures within settlements, since household identities will have been relative to, and nested within, broader communal ones. Furthermore, different household identities may have been played out in different ways, perhaps, for example, according to kin affiliation, or social or economic status. Since Broxmouth's coastal identity appears to have been represented by the limpet-scarred stones incorporated into roundhouse fabric, a broad-scale comparative study between the materiality of terrestrial and coastal sites may be fruitful.

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Appendices

Appendix A: Phase 6 roundhouse resource calculations

The tables and figures in this appendix formed the basis for the timber calculations of the Phase 6 roundhouses at Broxmouth, as shown in Table 5.1, section 5.1.2. The calculations shown here are for roundhouses with roof pitches of 45˚ and timber walls, where present, comprising wattle and daub. Measurements, other than given dimensions (such as diameter and entrance width) are rounded to the nearest metre, and the number of trees rounded *up* to the nearest whole number, since this is the total number of trees that would have required felling, even if left-over lengths were recycled or used as fuel etc. In some instances it may have been possible to use left-over lengths in other parts of the roundhouse fabric, but for structural timbers such as rafters and entrance furniture it would not have been viable to combine off-cuts to form whole elements. Diameters marked by * represent a rounded average of the dimensions of sub-circular structures.

Structural assumptions, such as the spacing of rafters (i.e. at 0.9m intervals), overhang at the eaves (0.5m), and the depth of wall-slots (0.3m) have been taken from Reynolds and Hill's (1995) original timber calculations for a selection of the Broxmouth roundhouses, in their earlier interpreted forms, as have the maximum length of useable timber per tree (i.e. 7m). The diameters of timber for each structural element has also been taken from Reynolds and Hill (1995), and supplemented with evidence from Broxmouth where necessary. The depth of entrance postholes (0.5m) has also been taken from an average of the Broxmouth data.

Rafters, whatever their length, have been assumed to represent one tree, since again, a full tree would need to have been felled, regardless of the length of off-cut. It is unlikely that all rafters would have stretched the length of the roof to the apex, and need therefore only have been sufficiently long to join onto the ring-beam. Calculations assume that the rafters of successive roundhouse stages, where present, sat on wall-plates on, or were bonded into, the wall-heads of the new structures, though they may as easily have oversailed the previous structures and have rested on/ been bedded into the original ground surface or wall-head. Wall height has been arbitrarily set at 2m for each structure, on the basis that this would allow head-clearance for an individual of average height (c. 1.7m; BBC 2010) throughout the roundhouse interior, including at the eaves.

A scale image of a 1.7m individual (Woodland Trust 2012) has been included in each roundhouse to show the relative proportions of the structures, and is particularly useful when comparing different structures, or the changing proportions of a structure (e.g. House 4) over time. The figure in House 6 shows that it would have been possible to walk between the inner and outer walls (unlike in House 5), and that it would have been possible to stand to full height on any upper floor, if it existed, even at the eaves.

The number of trees required has been split into different diameters depending on structural element, since it is unhelpful to amalgamate mature trees with diameters of 0.25m with those of smaller dimensions. The total number of trees, of all sizes, is also shown. Though every measurement is converted to ‘number of trees’, it is likely that coppiced stances would have yielded several suitable

timbers, and thus the number of trees quoted for timbers of 0.05m for example, may be better understood as ‘number of lengths’; as such, the number of trees quoted for timber of this diameter may be somewhat overstated. Indeed, the wattle walls of the Pimperne roundhouse reconstruction using 350 hazel rods taken from only 50 coppiced stools (Sharples 2010, 203). Conversely, no additional material for overlaps between timbers, such as those of the ring-beam and wall-plate, or between withies forming the purlins and wattle walls, has been accommodated in this model.

Calculations for stake, as opposed to wattle, walls were also undertaken, but are omitted here to aid presentation of the figures and data-tables; stake walls require more of the larger (0.15m) timbers, though they require fewer withies. Calculations were also undertaken for roof pitches of 53˚, since, whilst pitches of 45˚ represent the minimum surface area for roofing, pitches of 53˚ are more efficient at shedding rainwater (Carter 2009). Roof pitches of 53˚ have larger surface areas, and therefore require larger quantities of withies for purlins and thatching material, but the differences in timber consumption to those of 45˚ is negligible, and are not, therefore, illustrated here, to aid presentation of the figures and data-tables.

Fig. A.1 is a schematic diagram showing the formulae and equations which lie behind calculation of the dimensions (e.g. length, area etc) for each structural element of the roundhouse. Fig. A.2 shows the individual calculations for the various elements of each of the Phase 6 roundhouses, and their separate structural stages.

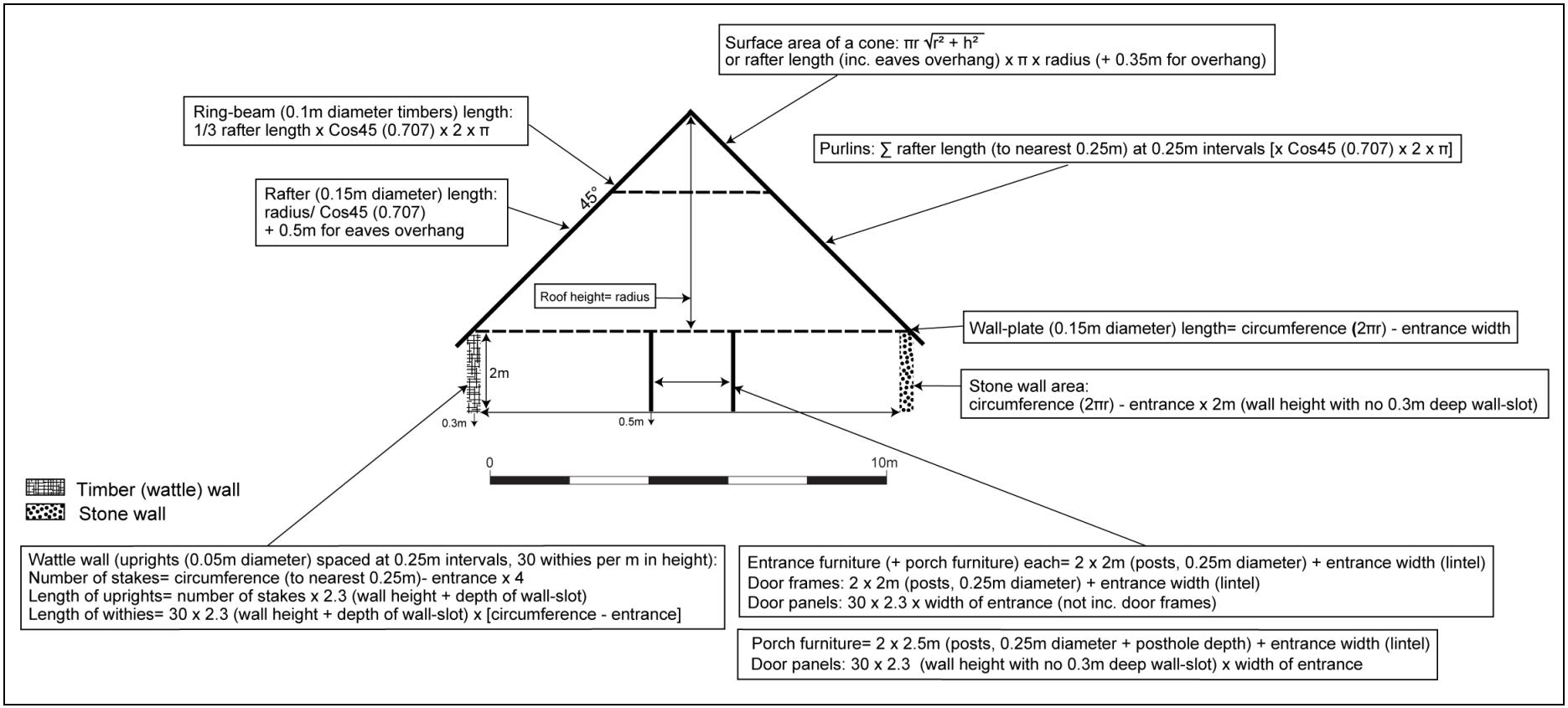
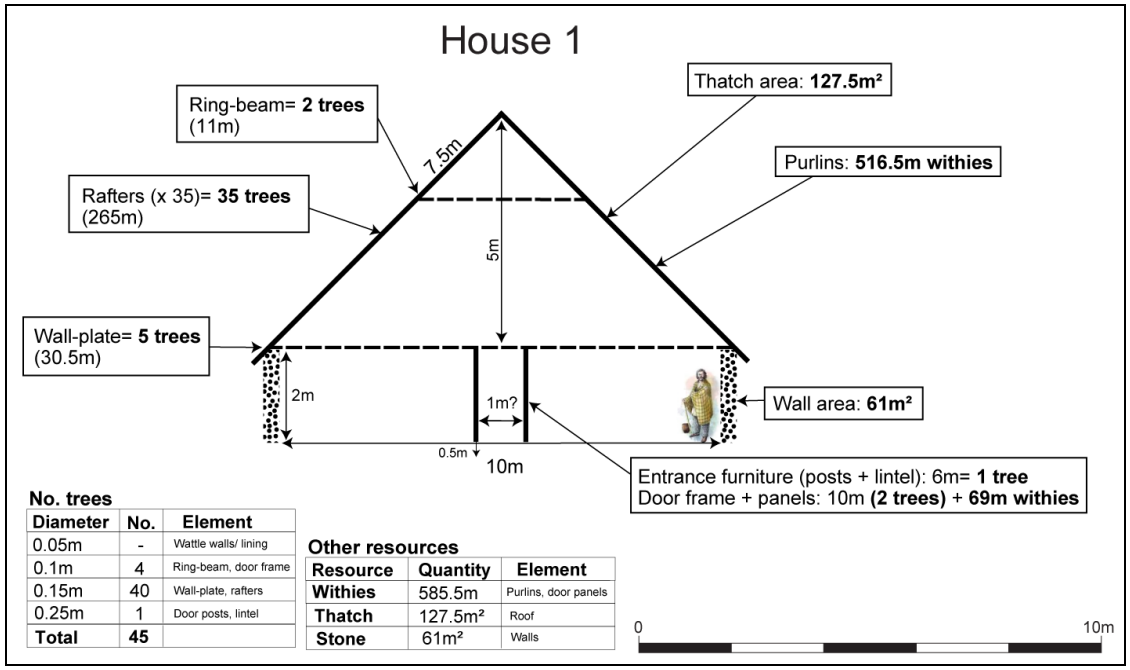


Fig. A.1 Schematic illustration of the dimensions, assumptions and formulae used to calculate the quantities of timber, and other resources, required for construction of each of the various elements of the Phase 6 roundhouses

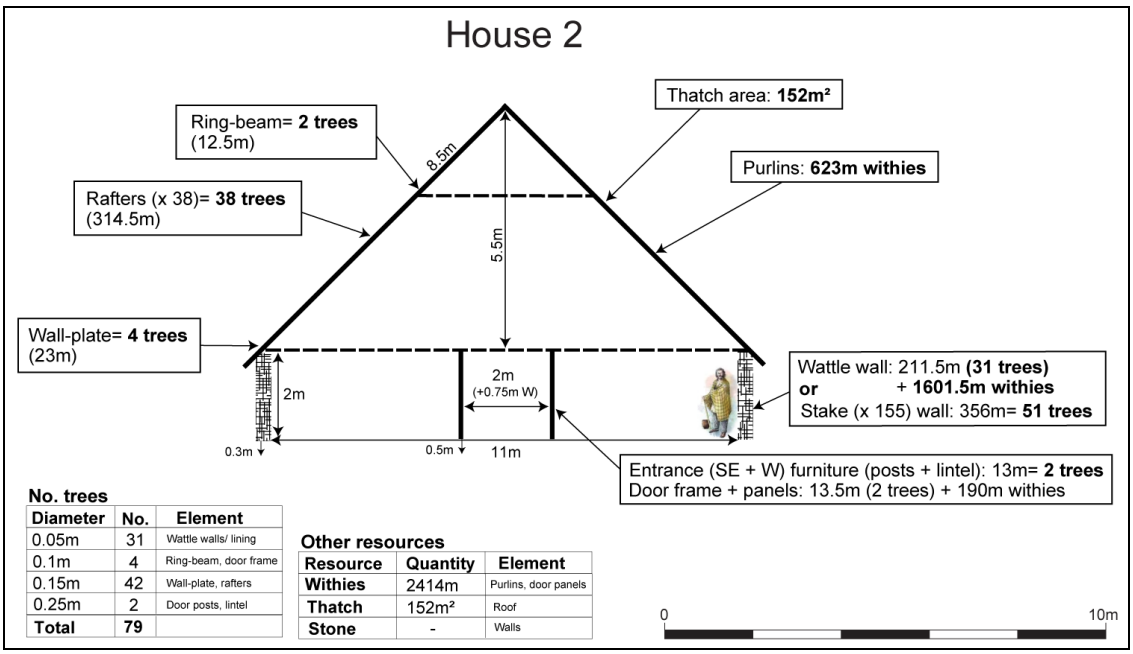


No. trees

Diameter	No.	Element
0.05m	-	Wattle walls/ lining
0.1m	4	Ring-beam, door frame
0.15m	40	Wall-plate, rafters
0.25m	1	Door posts, lintel
Total	**45**	

Other resources

Resource	Quantity	Element
Withies	585.5m	Purlins, door panels
Thatch	127.5m²	Roof
Stone	61m²	Walls



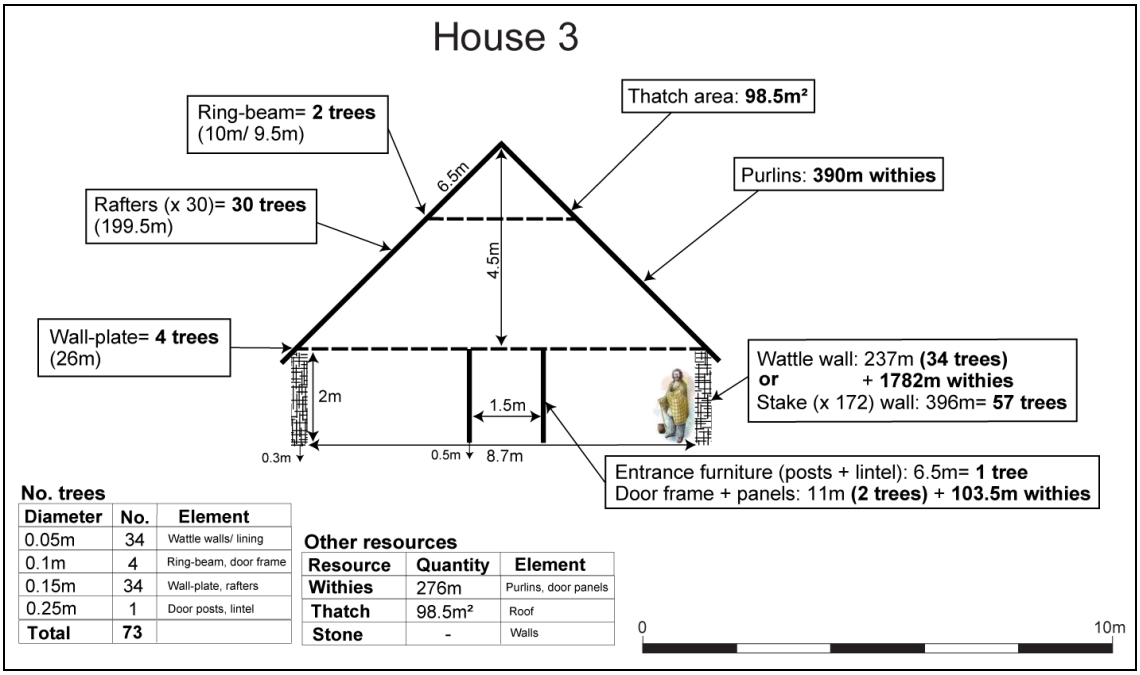
No. trees

Diameter	No.	Element
0.05m	31	Wattle walls/ lining
0.1m	4	Ring-beam, door frame
0.15m	42	Wall-plate, rafters
0.25m	2	Door posts, lintel
Total	**79**	

Other resources

Resource	Quantity	Element
Withies	2414m	Purlins, door panels
Thatch	152m²	Roof
Stone	-	Walls

House 3



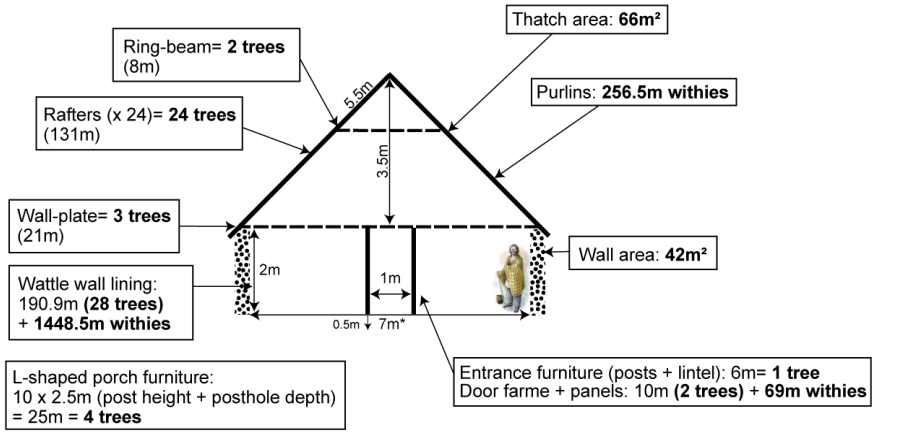
No. trees

Diameter	No.	Element
0.05m	34	Wattle walls/ lining
0.1m	4	Ring-beam, door frame
0.15m	34	Wall-plate, rafters
0.25m	1	Door posts, lintel
Total	**73**	

Other resources

Resource	Quantity	Element
Withies	276m	Purlins, door panels
Thatch	98.5m²	Roof
Stone	-	Walls

House 4 (stage 1)



No. trees

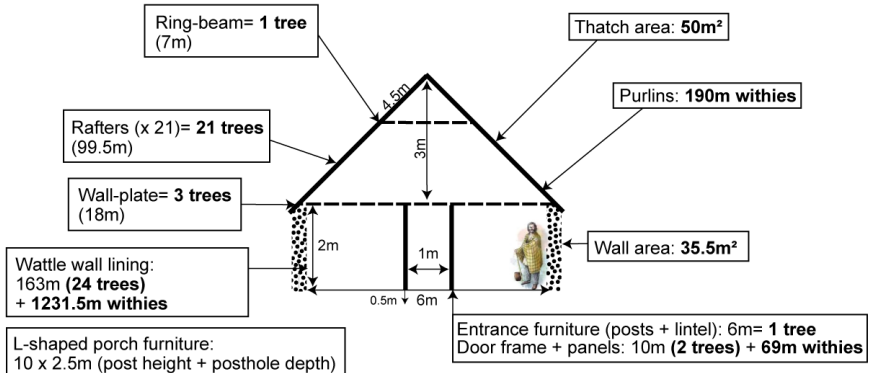
Diameter	No.	Element
0.05m	28	Wattle walls/ lining
0.1m	4	Ring-beam, door frame
0.15m	37	Wall-plate, rafters
0.25m	5	Door posts, lintel, porch
Total	**84**	

Other resources

Resource	Quantity	Element
Withies	1174m	Purlins, door panels
Thatch	68m²	Roof
Stone	42m²	Walls

0 10m

House 4 (stages 2 and 3)



Assumes rafters of successive stages are bedded into the new wall heads and not on the ground surface outside the stage 1 scoop

No. trees

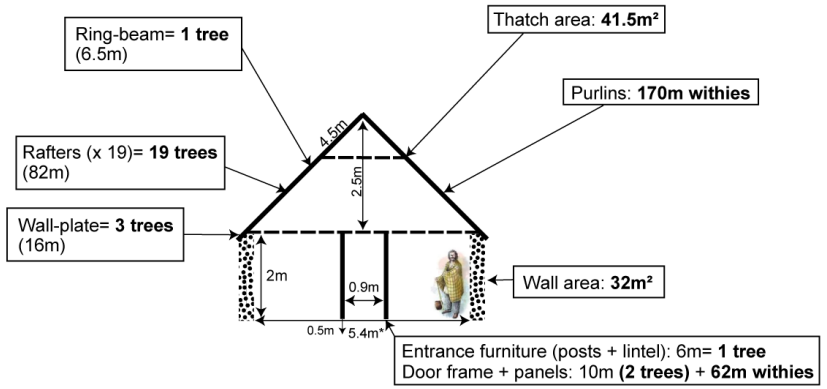
Diameter	No.	Element
0.05m	24	Wattle walls/ lining
0.1m	3	Ring-beam, door frame
0.15m	24	Wall-plate, rafters
0.25m	5	Door posts, lintel, porch
Total	**56**	

Other resources

Resource	Quantity	Element
Withies	1490.5m	Purlins, door panels
Thatch	50m²	Roof
Stone	35.5m²	Walls

0 10m

House 4 (stage 4)



Assumes rafters of successive stages are bedded into the new wall heads and not on the ground surface outside the stage 1 scoop

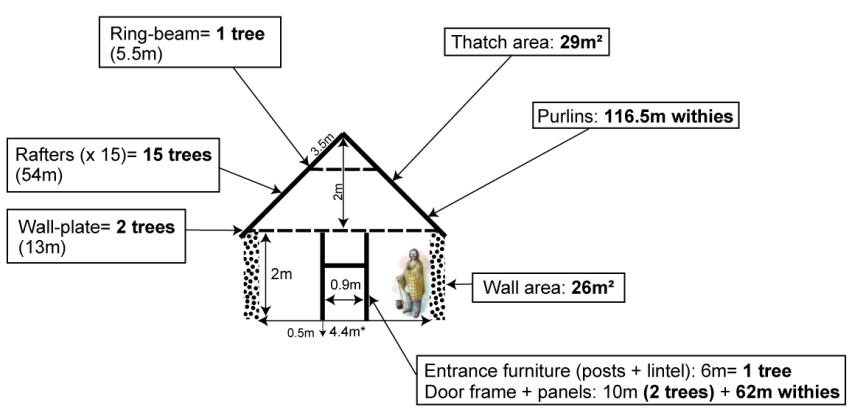
No. trees

Diameter	No.	Element
0.05m	-	Wattle walls/ lining
0.1m	3	Ring-beam, door frame
0.15m	22	Wall-plate, rafters
0.25m	1	Door posts, lintel
Total	**26**	

Other resources

Resource	Quantity	Element
Withies	232m	Purlins, door panels
Thatch	41.5m²	Roof
Stone	32m²	Walls

House 4 (stage 5)



Assumes rafters of successive stages are bedded into the new wall heads and not on the ground surface outside the stage 1 scoop

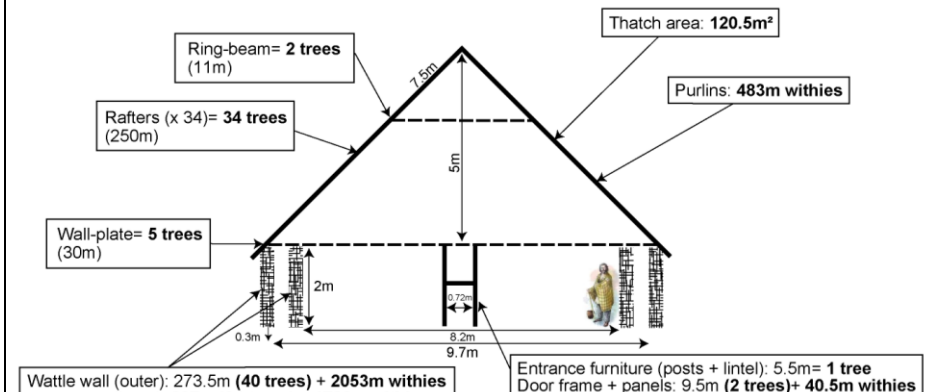
No. trees

Diameter	No.	Element
0.05m	-	Wattle walls/ lining
0.1m	3	Ring-beam, door frame
0.15m	17	Wall-plate, rafters
0.25m	1	Door posts, lintel
Total	**21**	

Other resources

Resource	Quantity	Element
Withies	178.5m	Purlins, door panels
Thatch	29m²	Roof
Stone	26m²	Walls

House 5 (stage 1)



No. trees

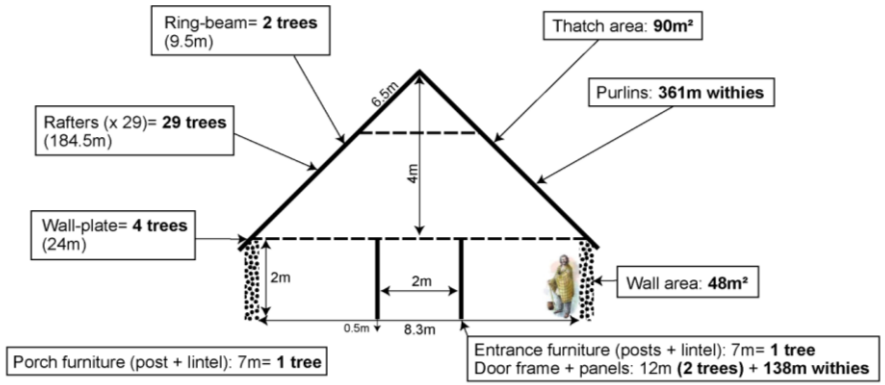
Diameter	No.	Element
0.05m	74	Wattle walls/ lining
0.1m	4	Ring-beam, door frame
0.15m	39	Wall-plate, rafters
0.25m	1	Door posts, lintel
Total	**118**	

Other resources

Resource	Quantity	Element
Withies	4313.5m	Purlins, door panels
Thatch	120.5m²	Roof
Stone	-	Walls

0 10m

House 5 (stage 2)



Assumes rafters of successive stages are bedded into the new wall heads and not on the ground surface outside the stage 1 scoop

No. trees

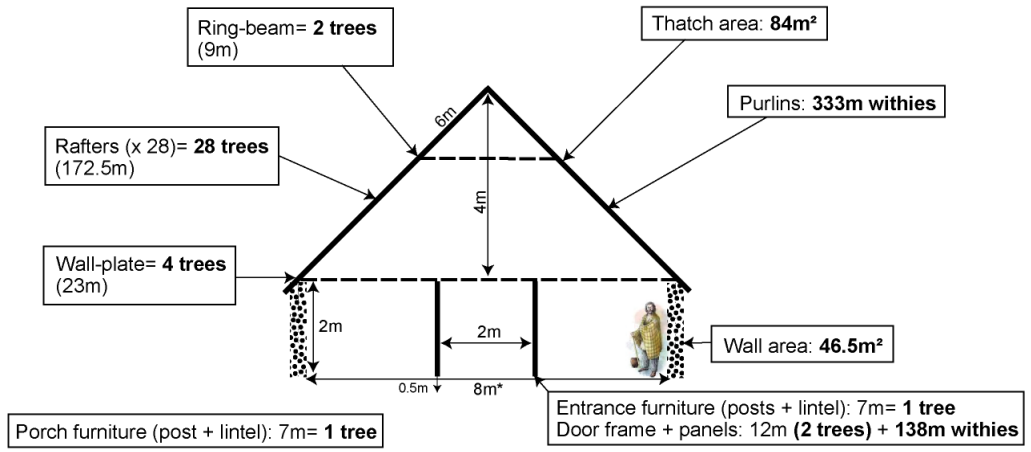
Diameter	No.	Element
0.05m	-	Wattle walls/ lining
0.1m	4	Ring-beam, door frame
0.15m	33	Wall-plate, rafters
0.25m	2	Door posts, lintel, porch
Total	**39**	

Other resources

Resource	Quantity	Element
Withies	499m	Purlins, door panels
Thatch	90m²	Roof
Stone	48m²	Walls

0 10m

House 5 (stage 3)



Assumes rafters of successive stages are bedded into the new wall heads and not on the ground surface outside the stage 1 scoop

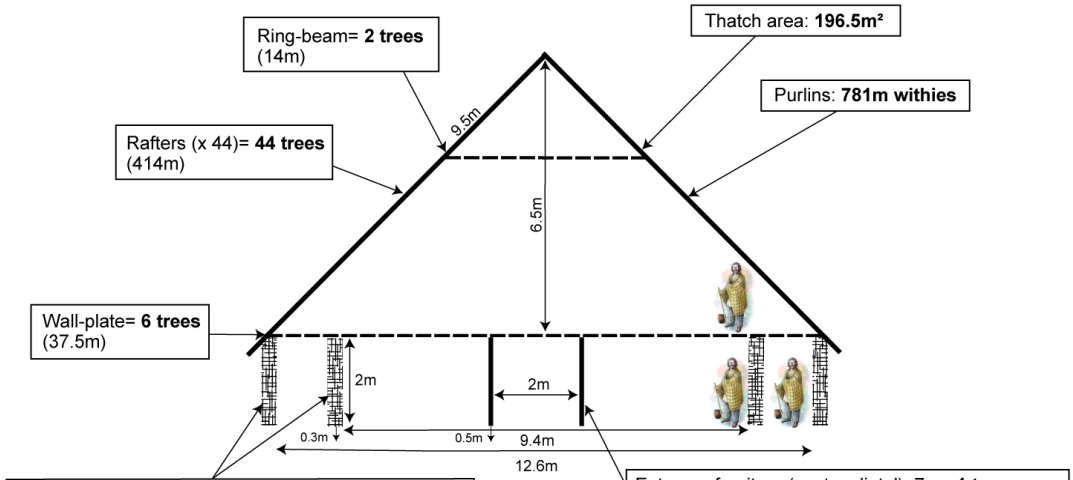
No. trees

Diameter	No.	Element
0.05m	-	Wattle walls/ lining
0.1m	4	Ring-beam, door frame
0.15m	32	Wall-plate, rafters
0.25m	2	Door posts, lintel, porch
Total	**38**	

Other resources

Resource	Quantity	Element
Withies	471m	Purlins, door panels
Thatch	84m²	Roof
Stone	46.5m²	Walls

House 6



Wattle wall (outer): 345m **(50 trees)** + **2593m withies**
(inner): 271m **(39 trees)** + **1899.5m withies**
or
Stake (x 198, outer) wall: 576.22m= **83 trees**
(x 167, inner) wall: 422.14m= **61 trees**

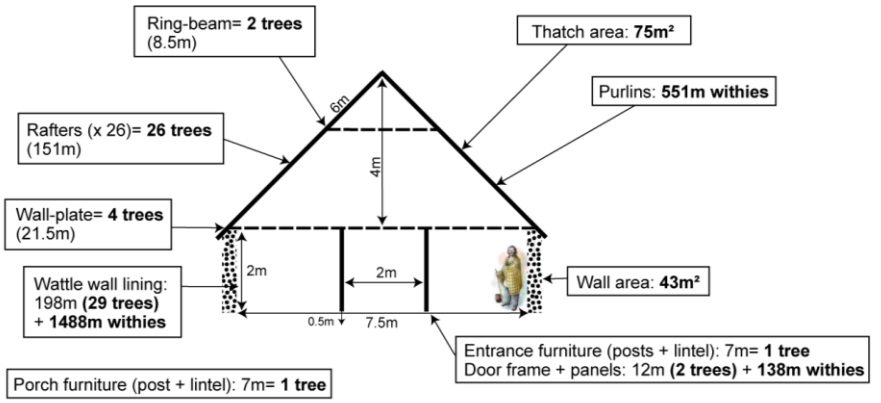
No. trees

Diameter	No.	Element
0.05m	89	Wattle walls/ lining
0.1m	4	Ring-beam, door frame
0.15m	50	Wall-plate, rafters
0.25m	1	Door posts, lintel
Total	**144**	

Other resources

Resource	Quantity	Element
Withies	5411.5m	Purlins, door panels
Thatch	196.5m²	Roof
Stone	-	Walls

House 7 (stages 1-3)



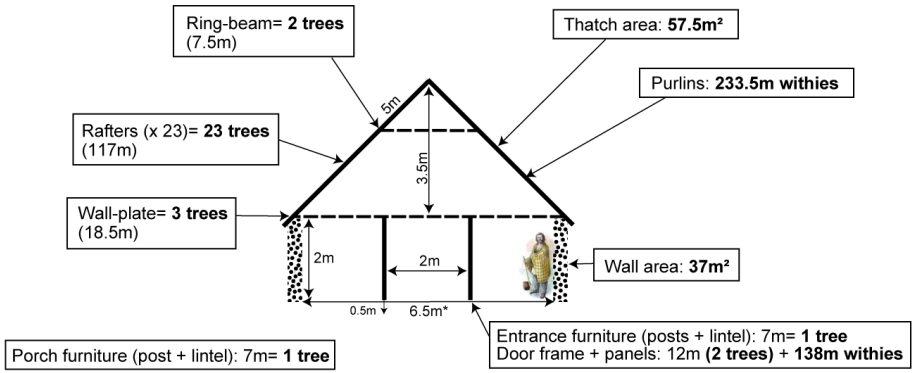
No. trees

Diameter	No.	Element
0.05m	29	Wattle walls/ lining
0.1m	4	Ring-beam, door frame
0.15m	30	Wall-plate, rafters
0.25m	2	Door posts, lintel, porch
Total	**65**	

Other resources

Resource	Quantity	Element
Withies	2176.5m	Purlins, door panels
Thatch	75m²	Roof
Stone	43m²	Walls

House 7 (stage 4)



Assumes rafters of successive stage is bedded into the new wall head and not on the ground surface outside the stage 1 scoop

No. trees

Diameter	No.	Element
0.05m	-	Wattle walls/ lining
0.1m	4	Ring-beam, door frame
0.15m	26	Wall-plate, rafters
0.25m	2	Door posts, lintel, porch
Total	**32**	

Other resources

Resource	Quantity	Element
Withies	371.5m	Purlins, door panels
Thatch	57.5m²	Roof
Stone	37m²	Walls

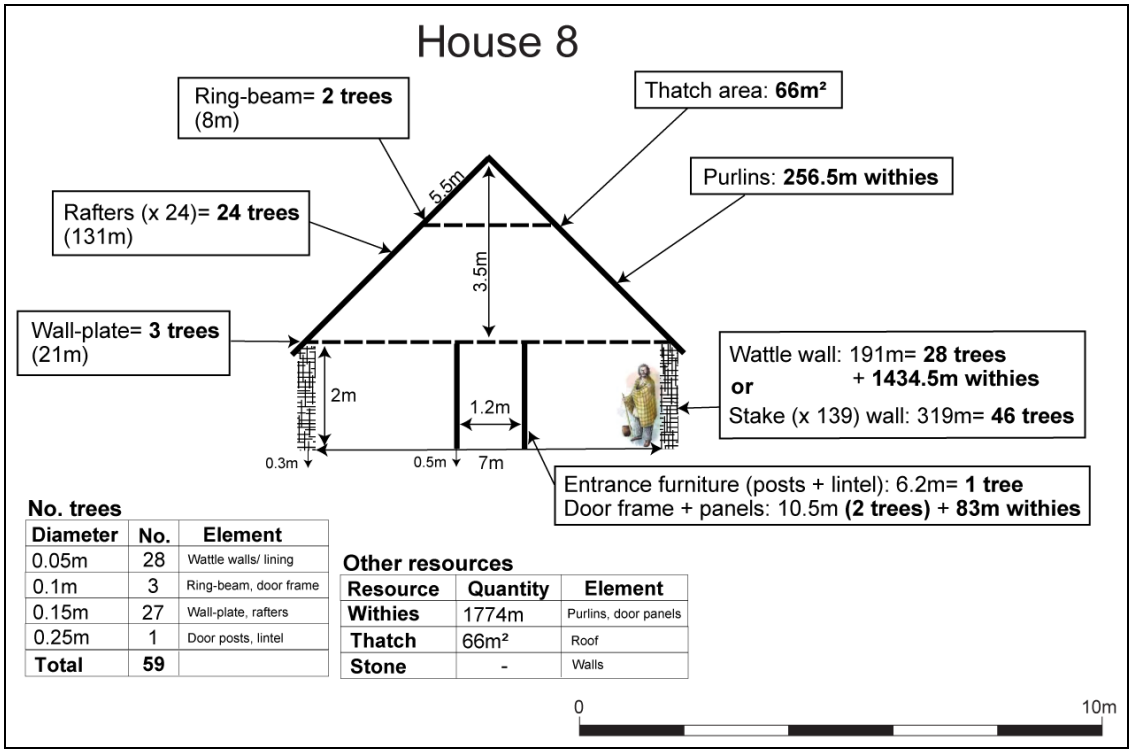


Fig. A.2 Quantities of timber, equated to number of trees of various diameter (and total), and other resources required for construction of the various elements (and in total), of each of the Phase 6 roundhouses (rounded to the nearest 0.5m and rounded *up* to the nearest tree; image: author).

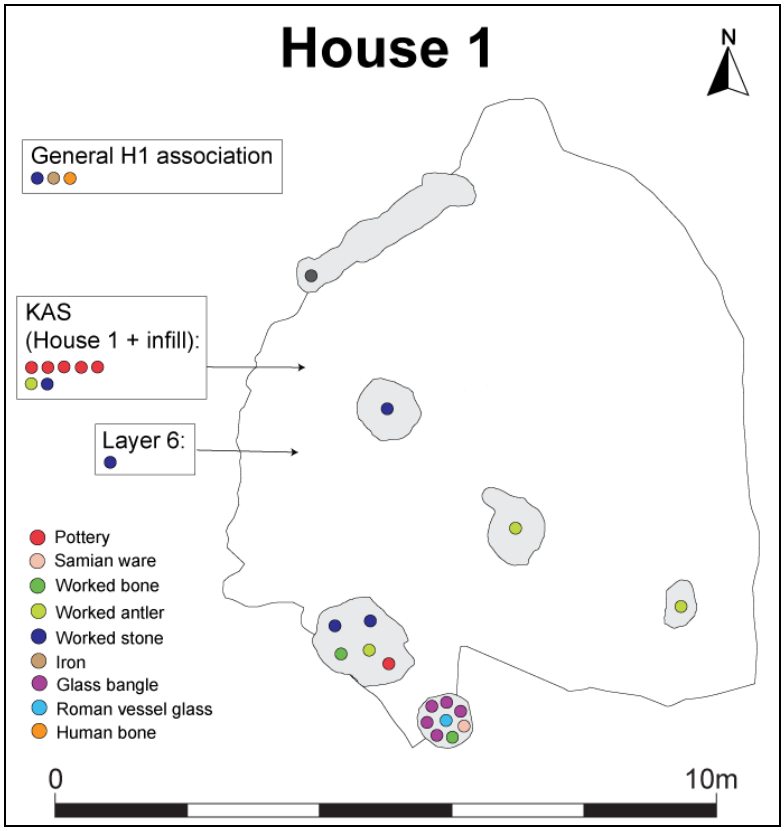
House	Stage	Diameter (m) (inner)	Circumference (m)	Entrance width (m)	No. rafters	Rafter length (m)
1	n/a	10	31.5	1	35	7.5
2	n/a	11	34.5	2.75 (SE + W)	38	8.25
3	n/a	8.7	27.5	1.5	30	6.5
4	1	7*	22	1	24	5.5
	2 and 3	6	19	1	21	4.5
	4	5.4*	17	0.9	19	4.5
	5	4.4*	14	0.9	15	3.5
5	1	9.7 (8.2)	30.5	0.72	34	7.5
	2	8.3	26	2	29	6.5
	3	8*	25	2	28	6
6	n/a	12.6 (9.4)	39.5	2	44	9.5
7	1-3	7.5	23.5	2	26	6
	4	6.5*	20.5	2	23	5
8	n/a	7	22	1.2	24	5.5

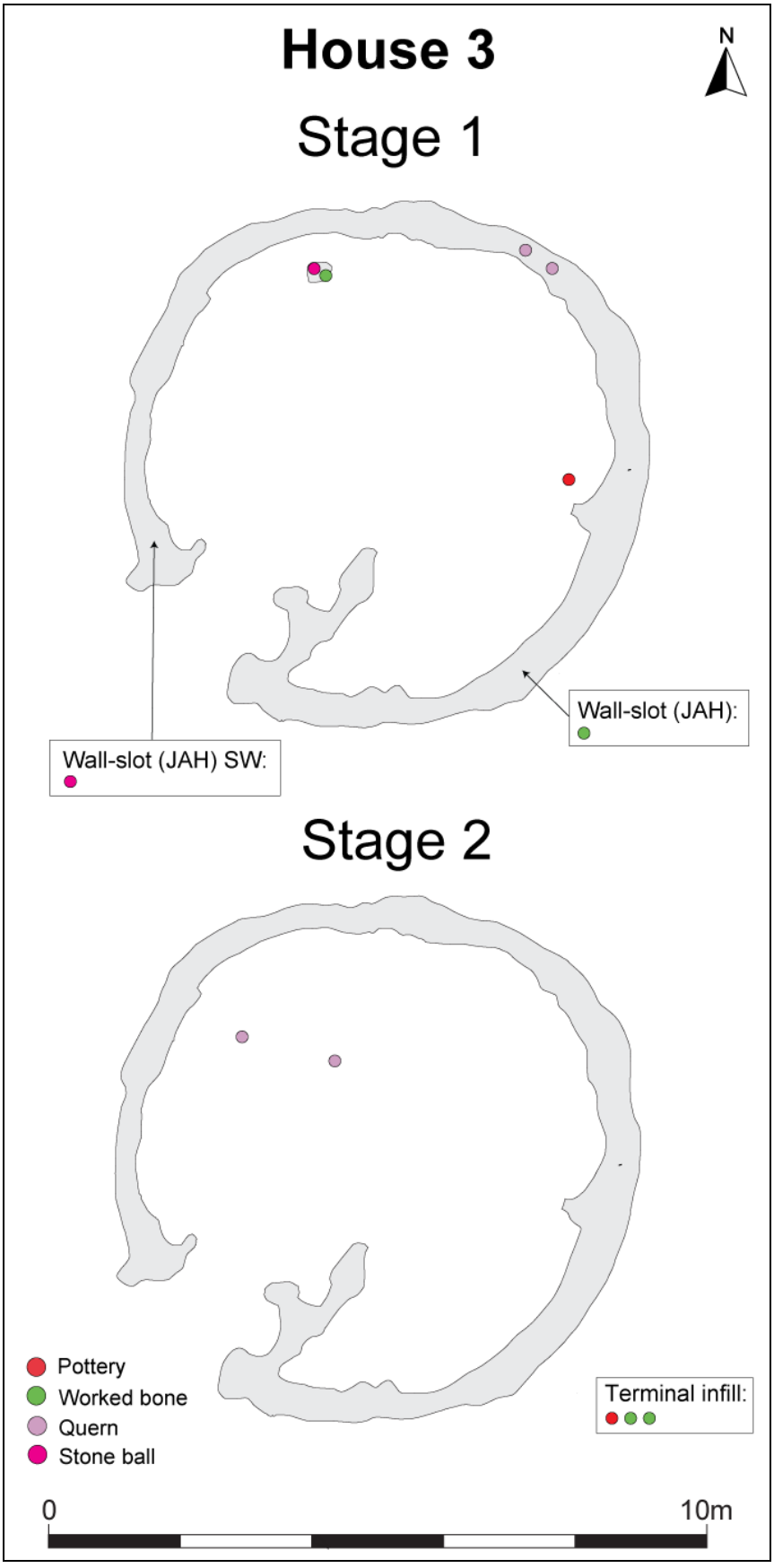
Table A.1 Dimensions of the Phase 6 roundhouses at Broxmouth, used in calculations for the resource requirements of each structure. Figures are rounded to the nearest 0.5m (with the exception of given dimensions, i.e. diameter and entrance). * denotes average diameters in structures which are sub-circular. Rafter length includes 0.5m for overhang of the eaves. Number of rafters is based on 0.9m spacing (after Reynolds and Hill 1995; table: author).

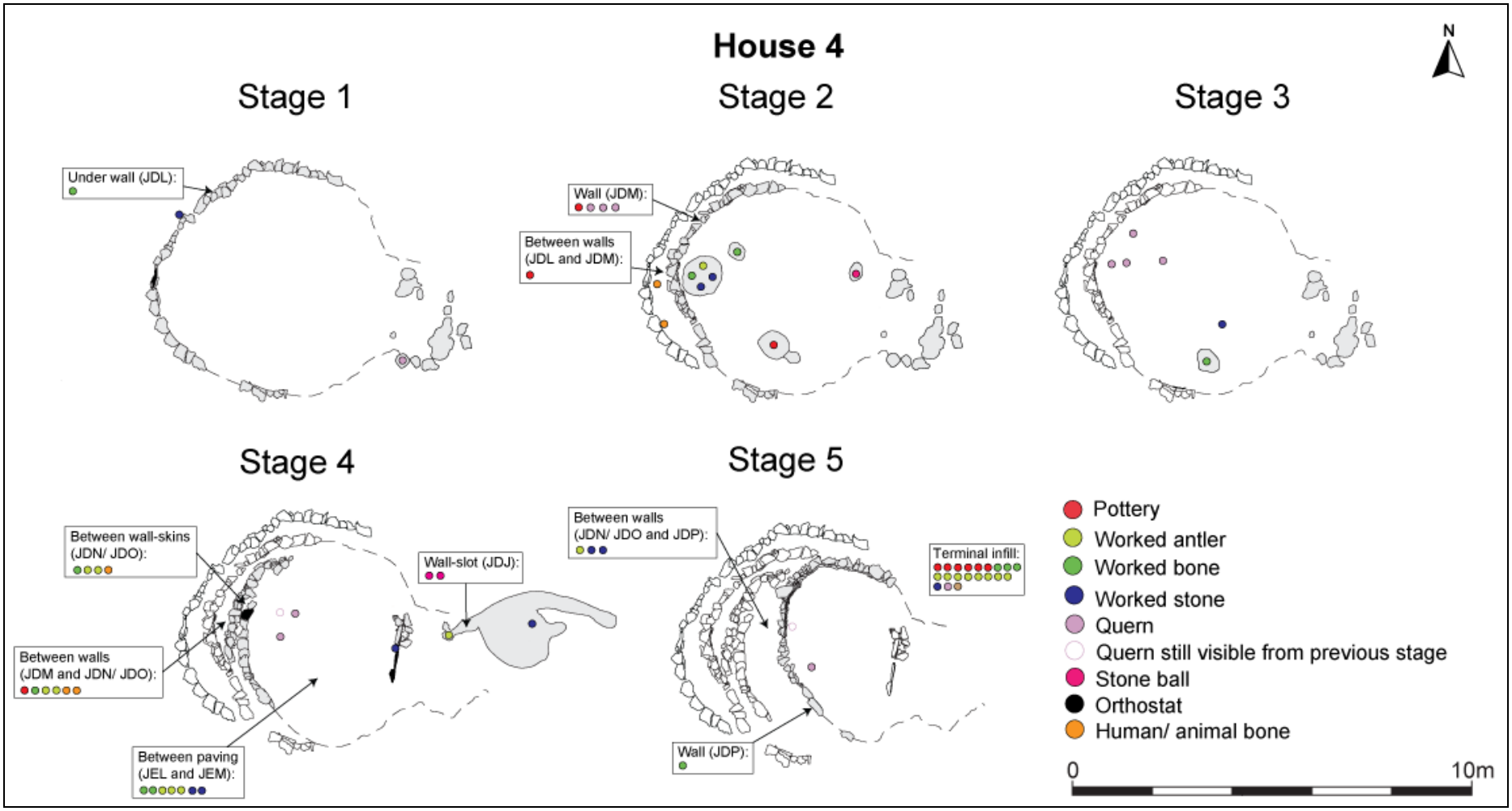
House	Stage	No. trees							Withies (m)				Thatch (m^2)	Stone (m^2)
		Wall plate	Entrance (+ porch)	Door frame	Wall/ lining	Rafters	Ring-beam	**Total trees (all sizes)**	Purlins	Wattle wall/ lining	Doors	**Total withies**	Roof	Wall
1	n/a	5	1	2	n/a	35	2	45	516.5	n/a	69	585.5	127.5	61
2	n/a	4	2	2	31	38	2	79	623	1601.5	190	2414	152	n/a
3	n/a	4	1	2	34	30	2	73	390	1782	103.5	2276	98.5	n/a
4	1	3	1	2	28	24	2	64	256.5	1448.5	69	1774	66	42
	2 and 3	3	1	2	24	21	1	56	190	1231.5	69	1490.5	50	35.5
	4	3	1	2	n/a	19	1	26	170	n/a	62	232	41.5	32
	5	2	1	2	n/a	15	1	21	116.5	n/a	62	178,5	29	26
5	1	5	1	2	74	34	2	118	483	3781	40.5	4313.5	120.5	n/a
	2	4	1	2	n/a	29	2	39	361	n/a	138	499	90	48
	3	4	1	2	n/a	28	2	38	333	n/a	138	471	84	46.5
6	n/a	6	1	2	89	44	2	144	781	4492.5	138	5411.5	196.5	n/a
7	1-3	4	1	2	29	26	2	65	551	29	138	2176.5	75	43
	4	3	1	2	n/a	23	2	32	233.5	n/a	138	371.5	57.5	37
8	n/a	3	1	2	28	24	2	59	256.5	28	83	1774	66	n/a

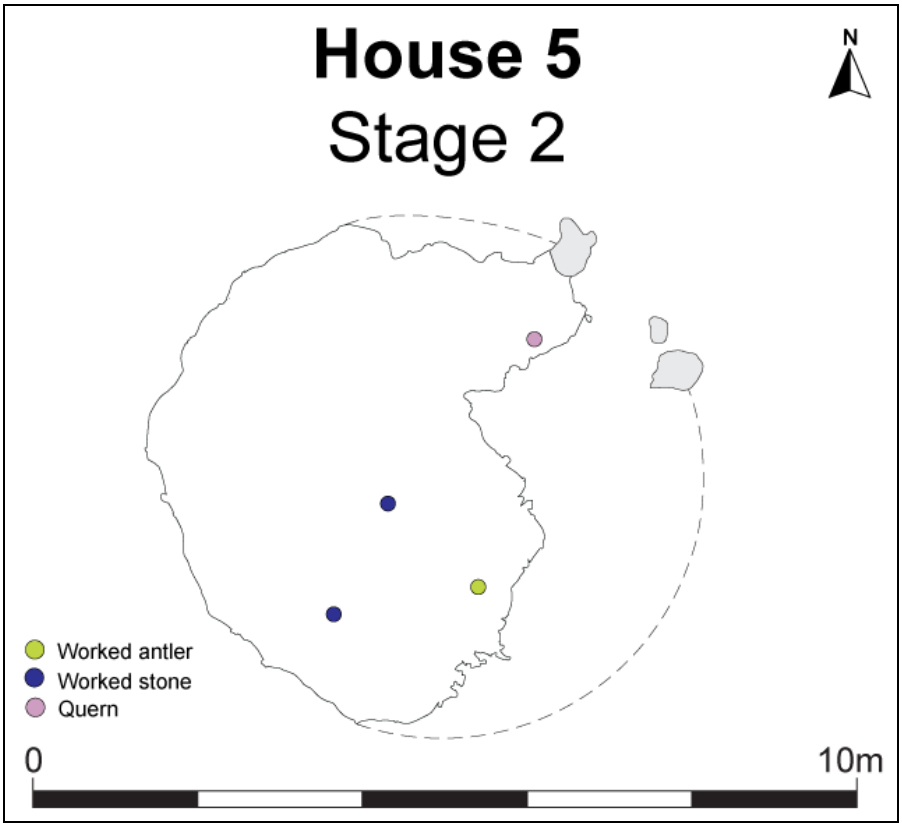
Table A.2 Quantities of timber, and other resources, required for construction of each of the various elements of the Phase 6 roundhouses, and totals for each structure (rounded to the nearest 0.5m and rounded *up* to the nearest tree; table: author).

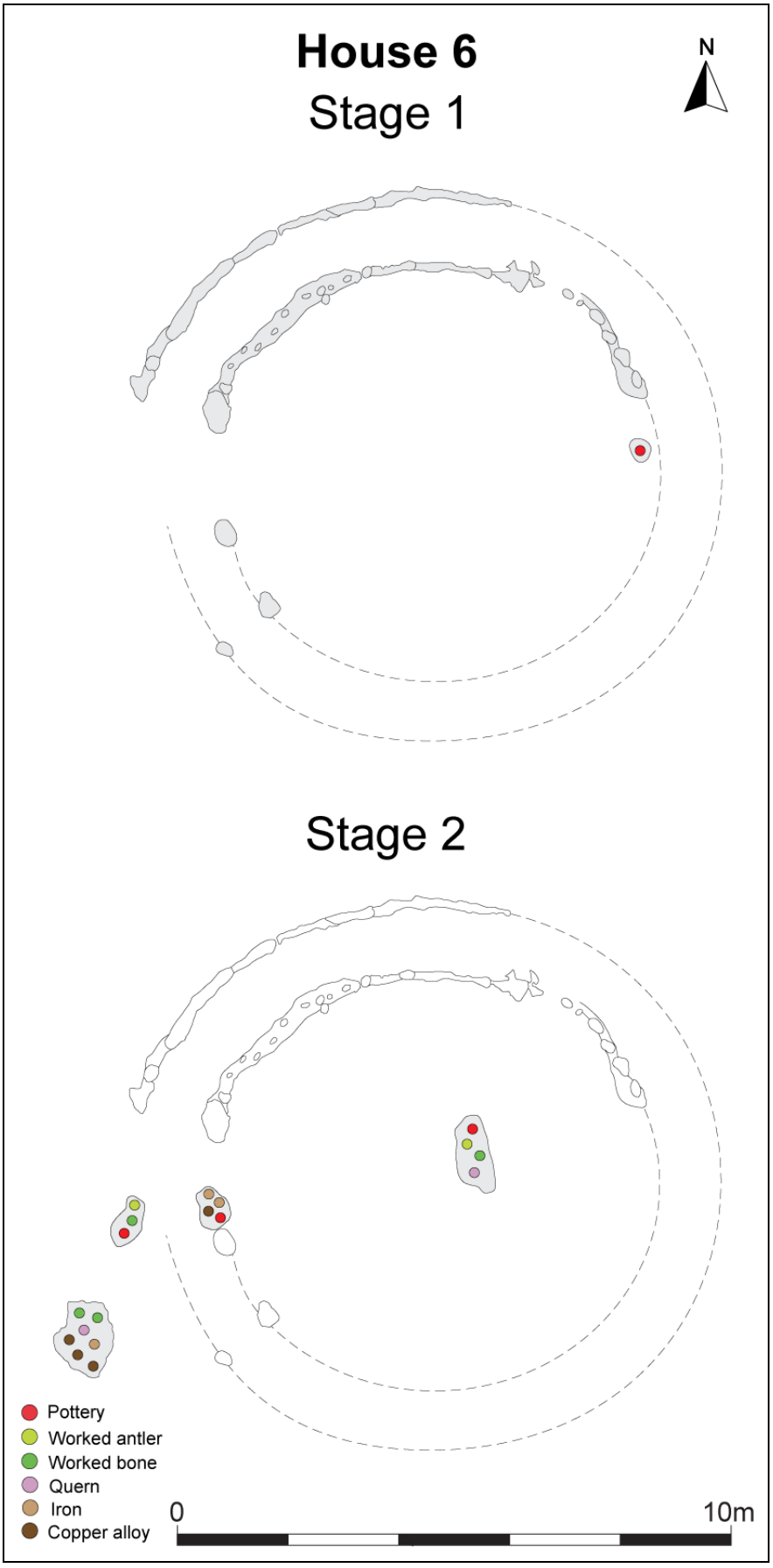
Appendix B: Phase 6 roundhouse artefact distribution plots

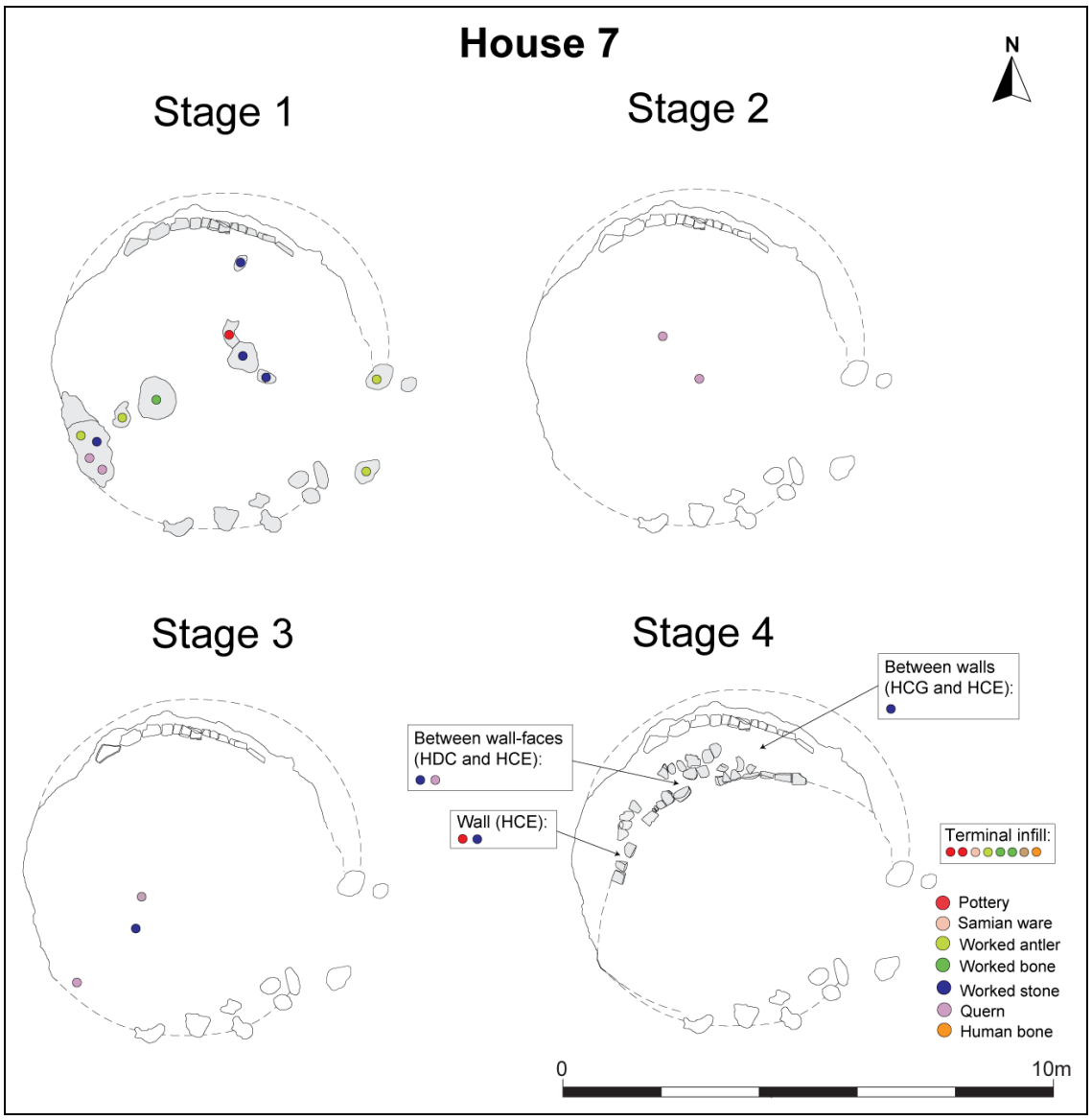



House 3
N
Stage 1
Wall-slot (JAH) SW:
Wall-slot (JAH):
Stage 2
Pottery
Worked bone
Quern
Stone ball
Terminal infill:
0
10m


House 4
Stage 1
Under wall (JDL):
Stage 2
Wall (JDM):
Between walls (JDL and JDM):
Stage 3
Stage 4
Between wall-skins (JDN/ JDO):
Wall-slot (JDJ):
Between walls (JDM and JDN/ JDO):
Between paving (JEL and JEM):
Stage 5
Between walls (JDN/ JDO and JDP):
Terminal infill:
Wall (JDP):
N
Pottery
Worked antler
Worked bone
Worked stone
Quern
Quern still visible from previous stage
Stone ball
Orthostat
Human/ animal bone
0
10m


House 5
Stage 2
N
Worked antler
Worked stone
Quern
0
10m


House 6
Stage 1
N
Stage 2
Pottery
Worked antler
Worked bone
Quern
Iron
Copper alloy
0
10m


House 7
N
Stage 1
Stage 2
Stage 3
Stage 4
Between walls (HCG and HCE):
Between wall-faces (HDC and HCE):
Wall (HCE):
Terminal infill:
Pottery
Samian ware
Worked antler
Worked bone
Worked stone
Quern
Human bone
0
10m

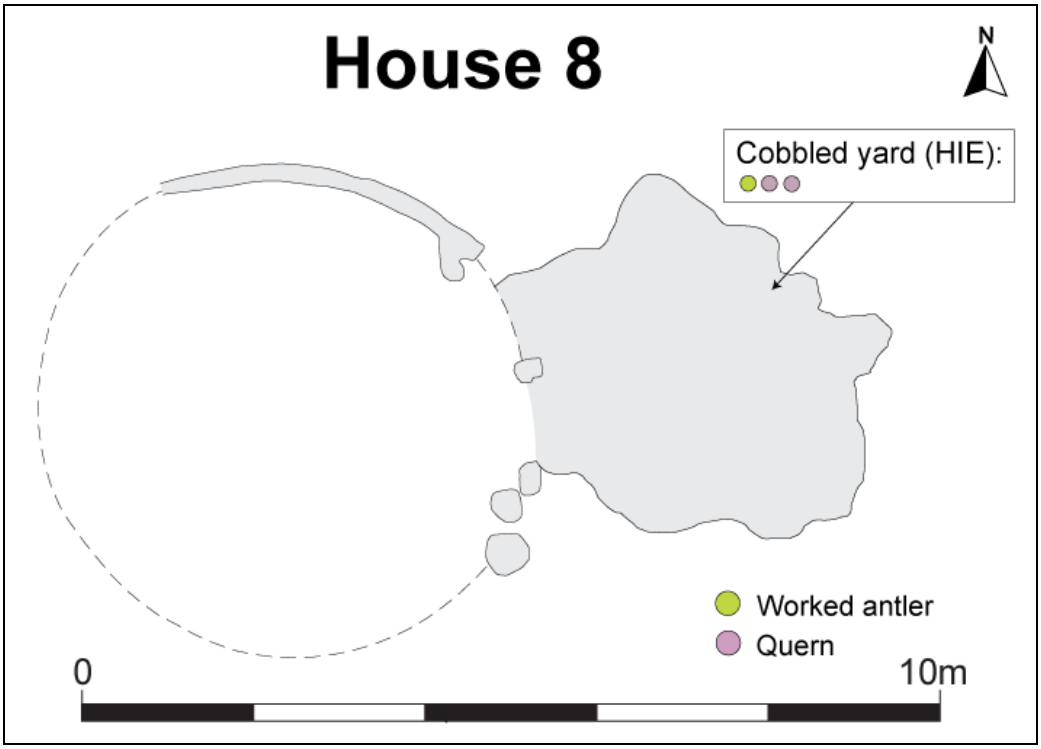


Fig. B.1 Artefact distribution plots for the Phase 6 roundhouses (image: author). Only those roundhouse stages which include artefacts are shown (i.e. House 5, stages 1 and 3 are omitted). Artefacts from features only *possibly* associated with House 1 are not included, since their location on plan is uncertain.